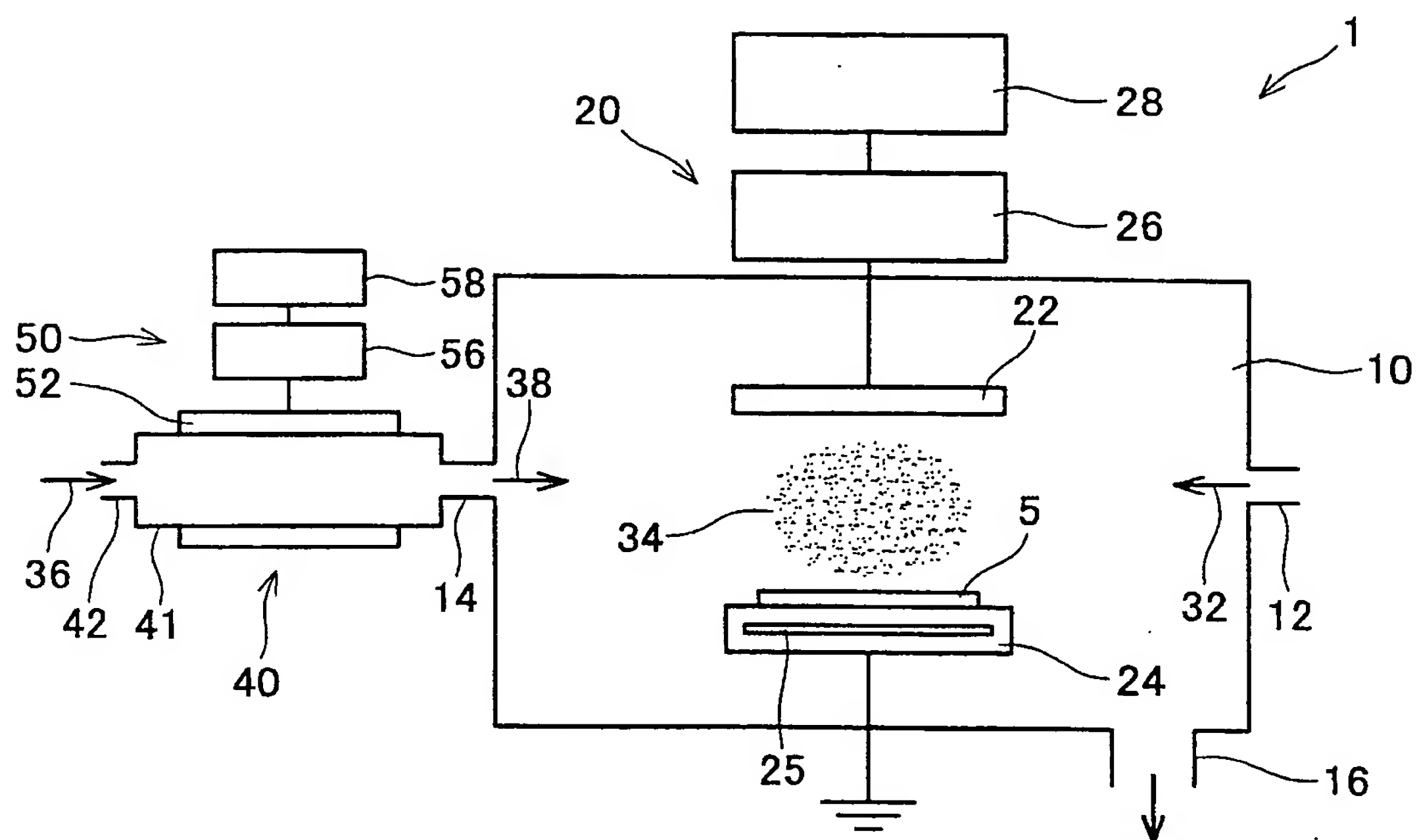


FIG. 1



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FIG. 2

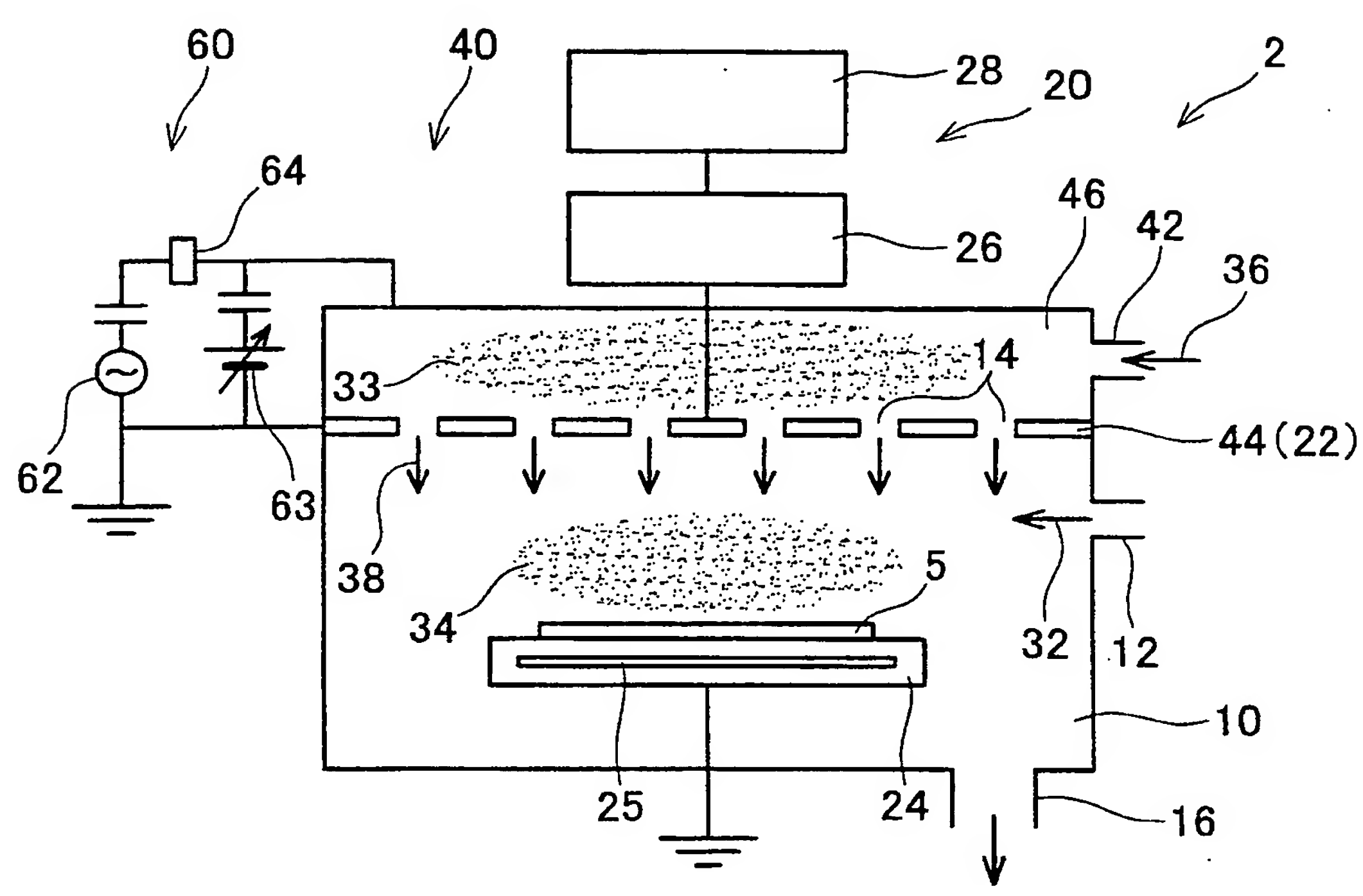


FIG. 3

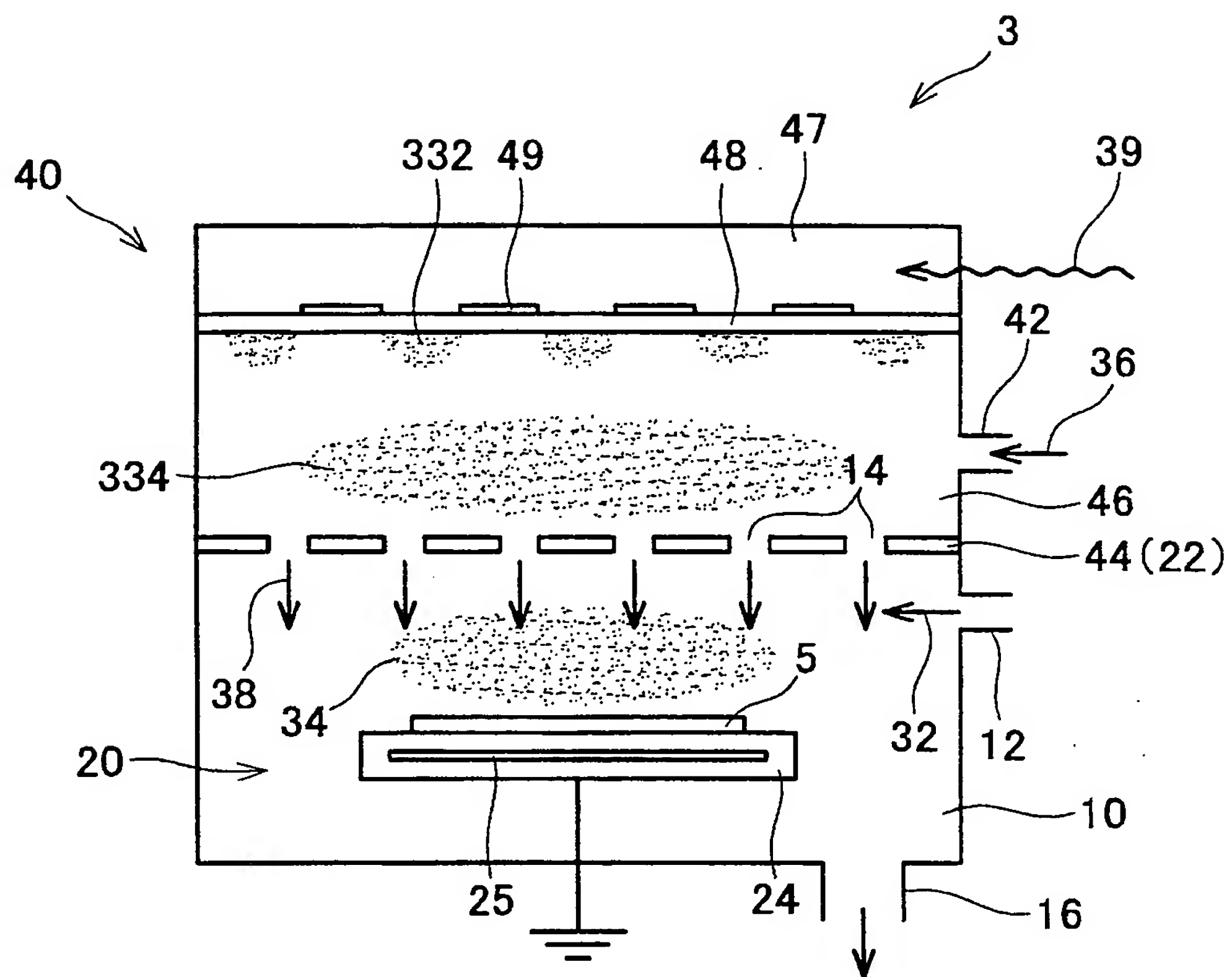


FIG. 4

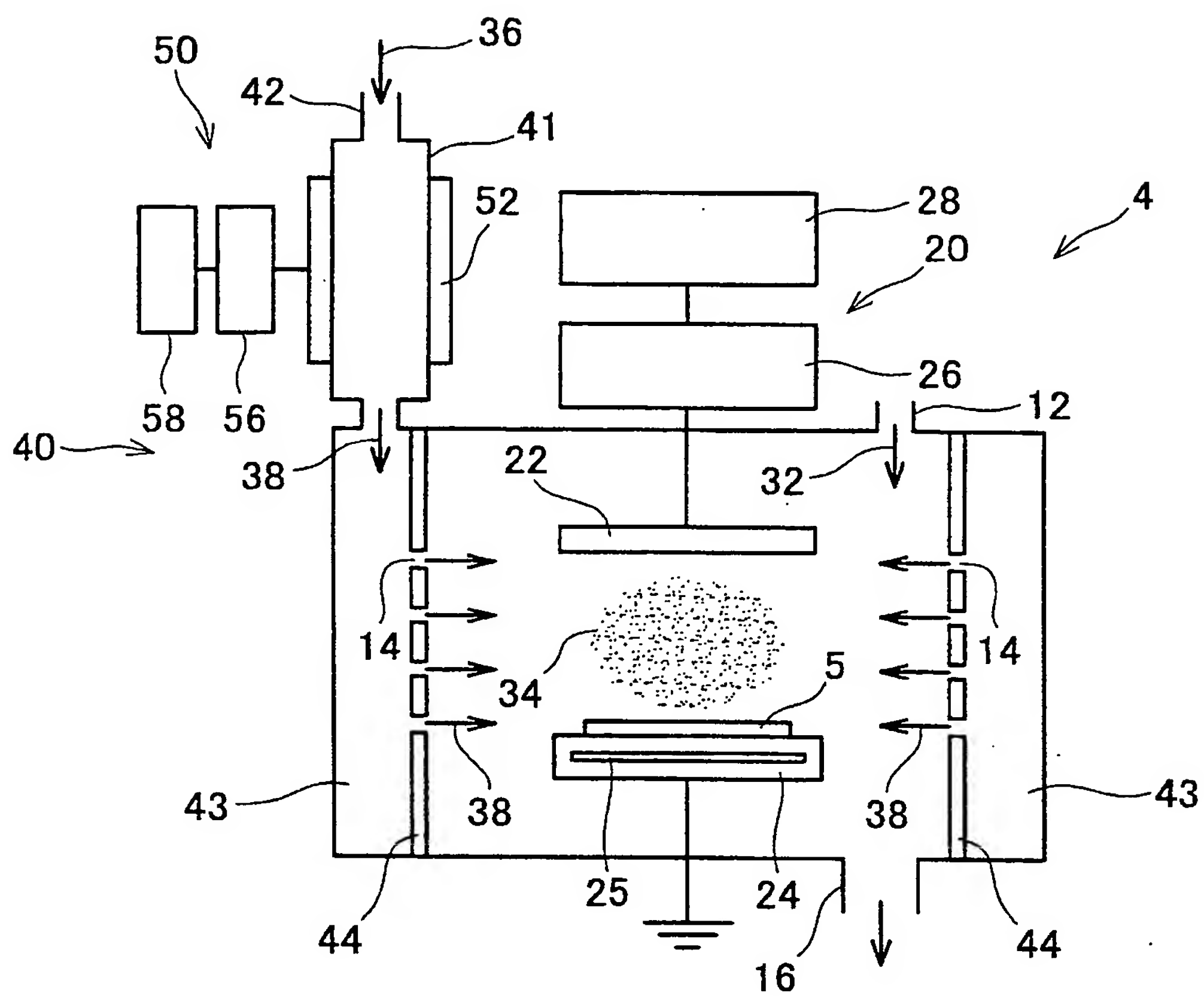


FIG. 5

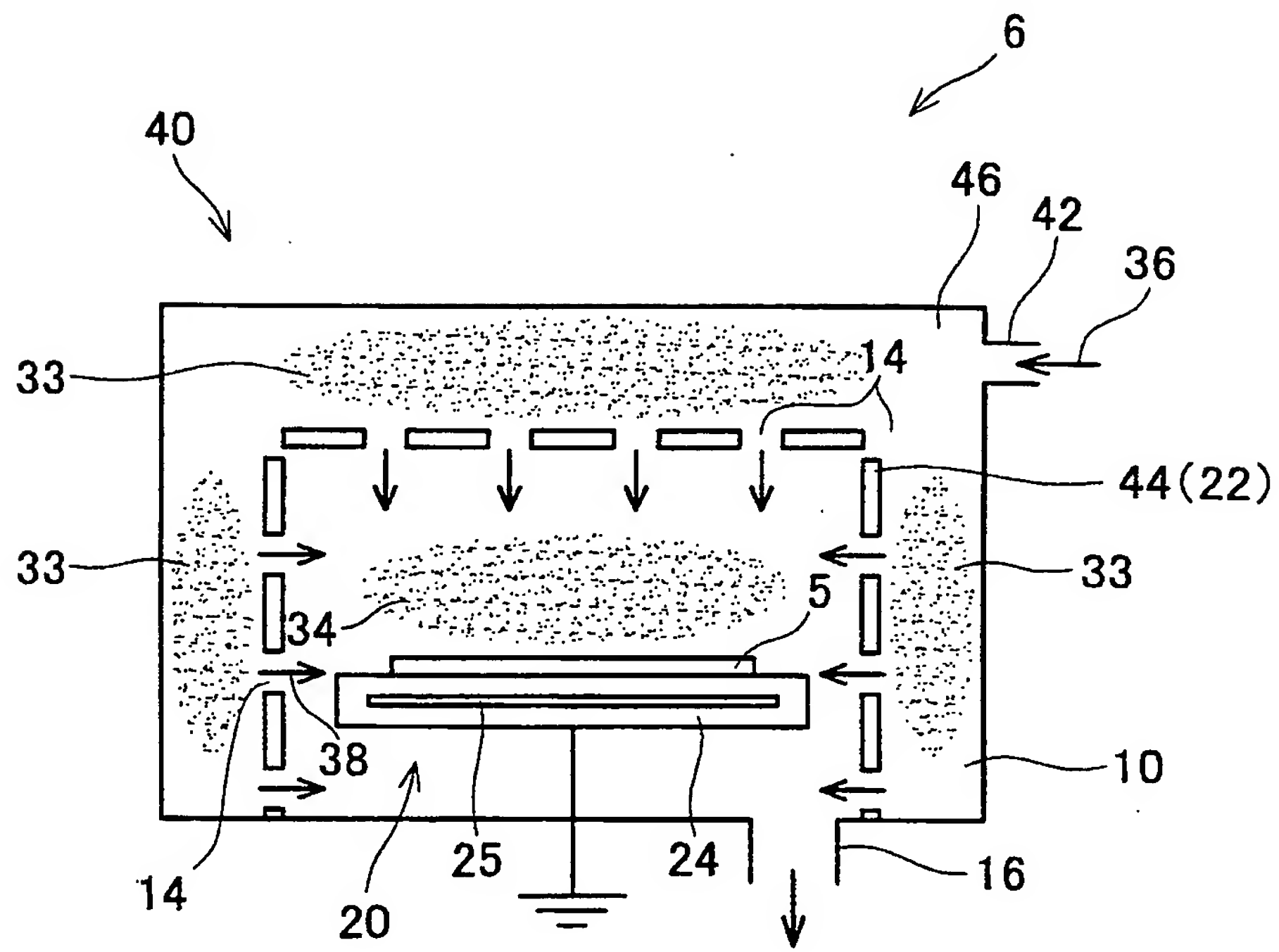


FIG. 6

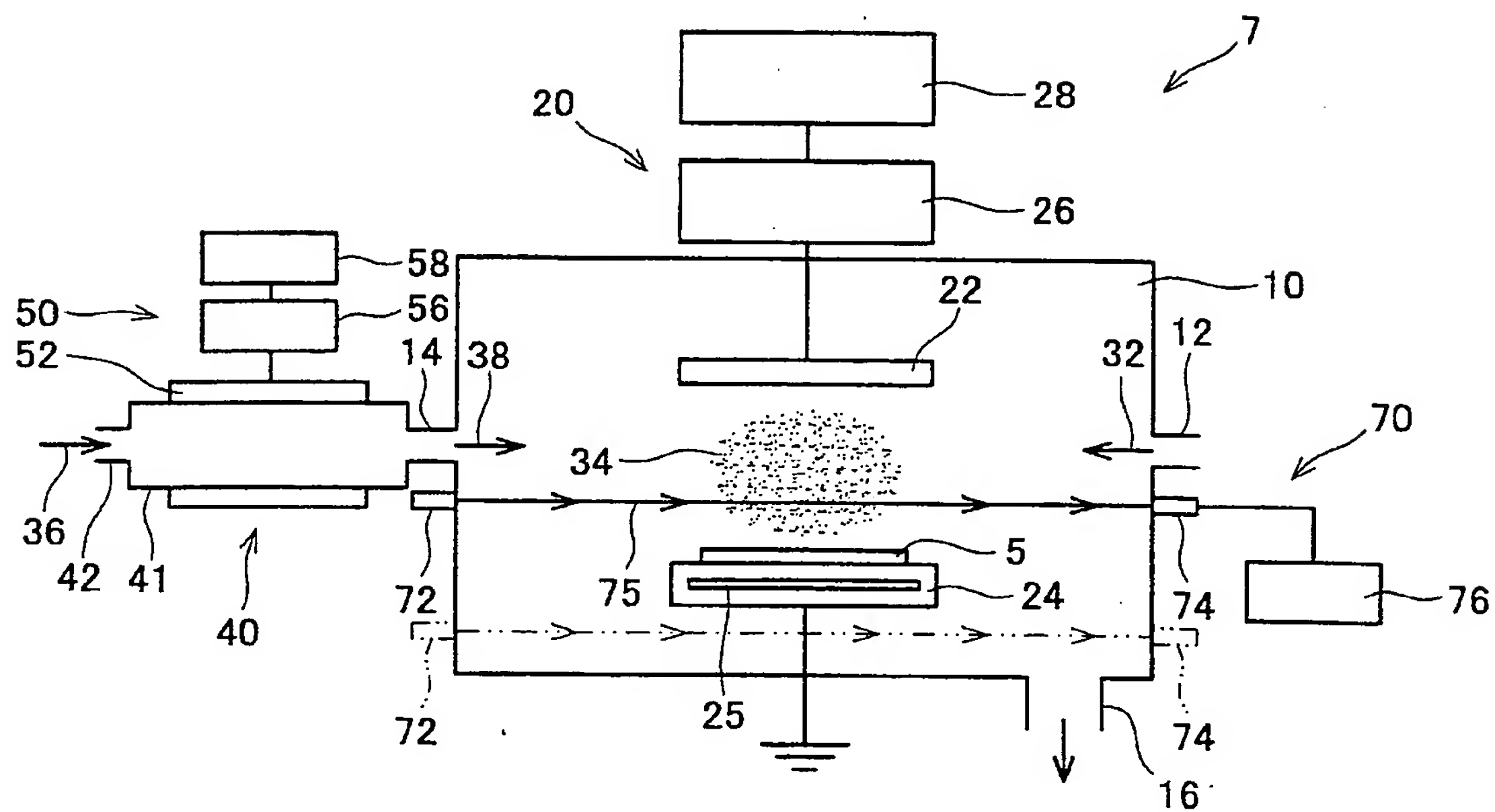
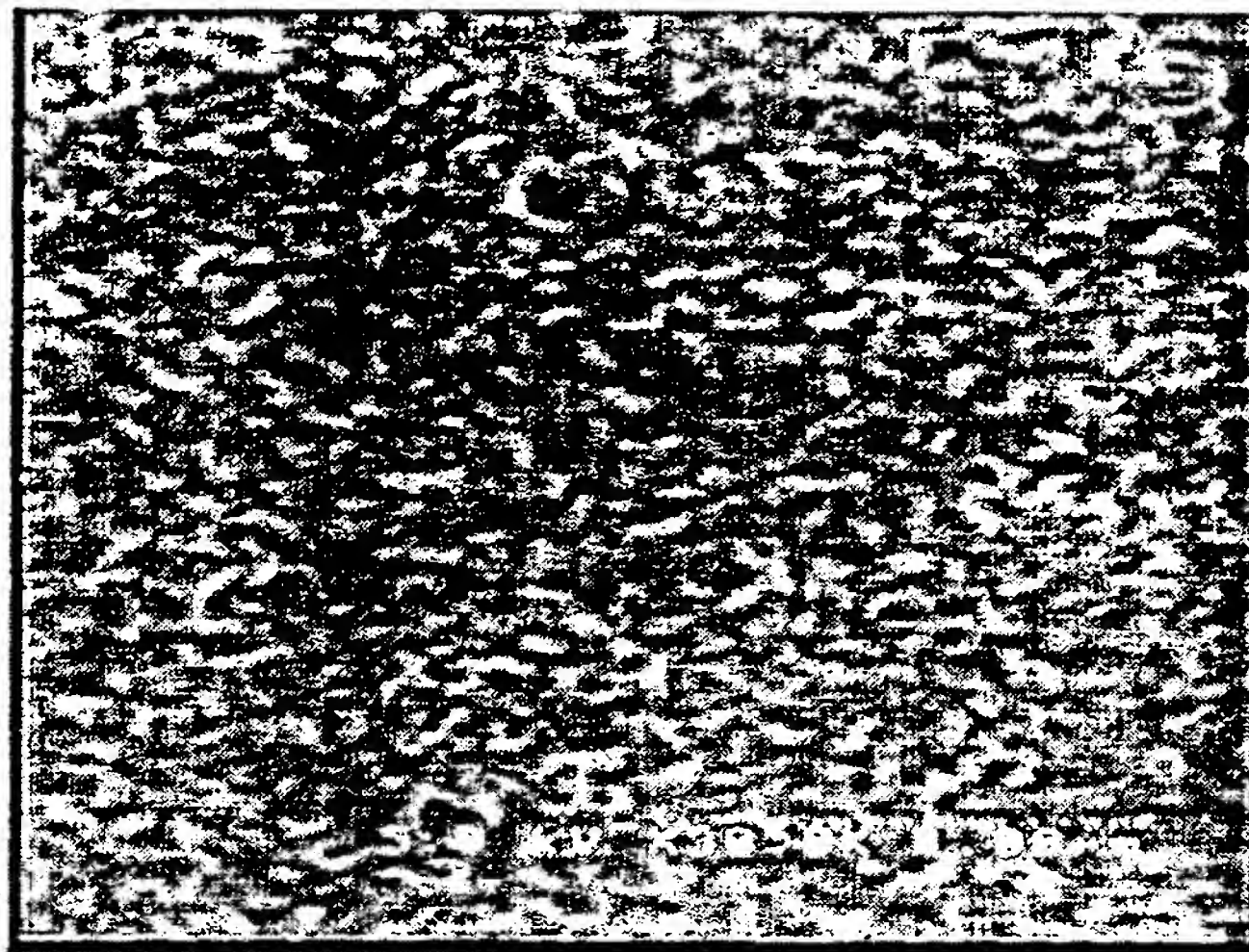
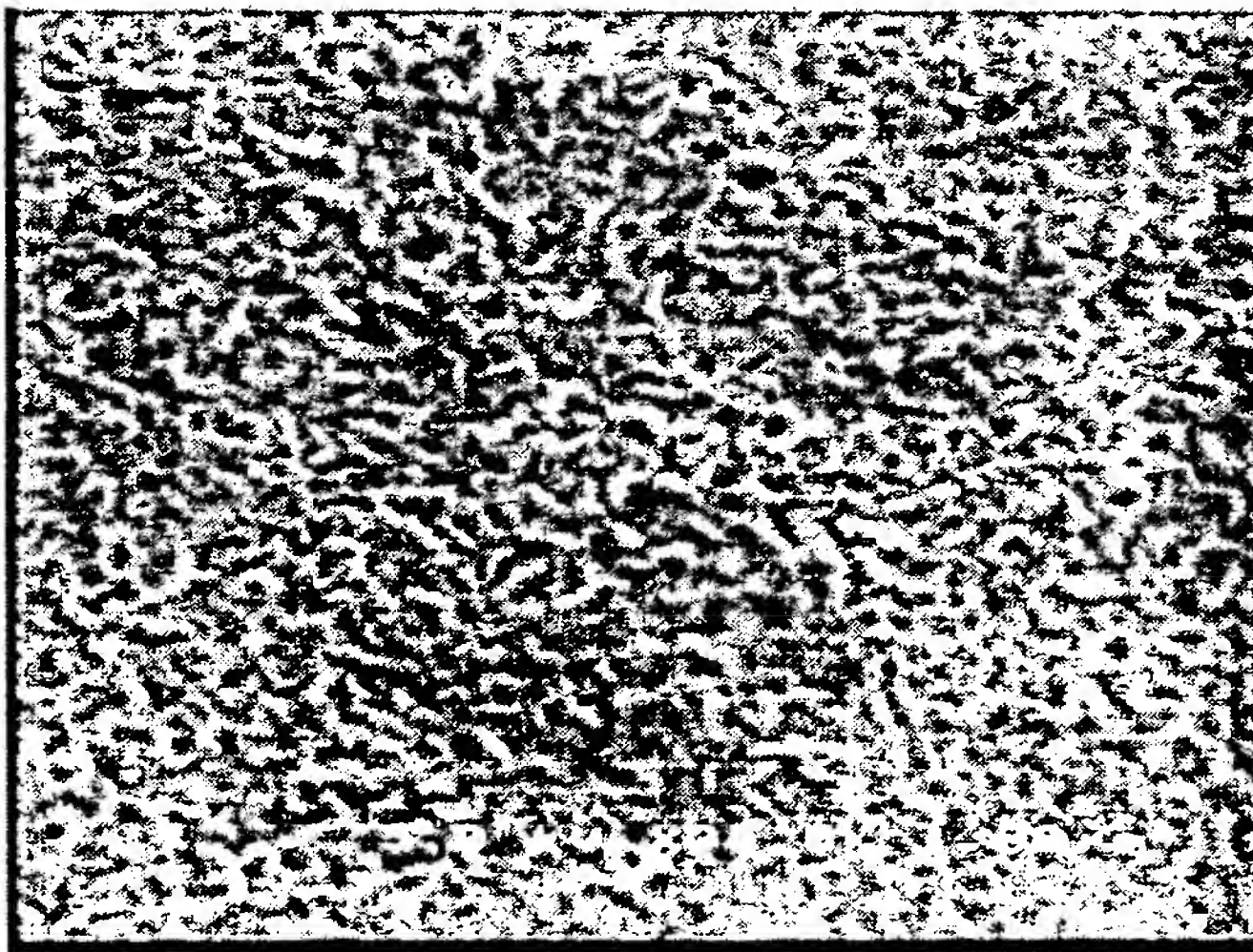


FIG. 7



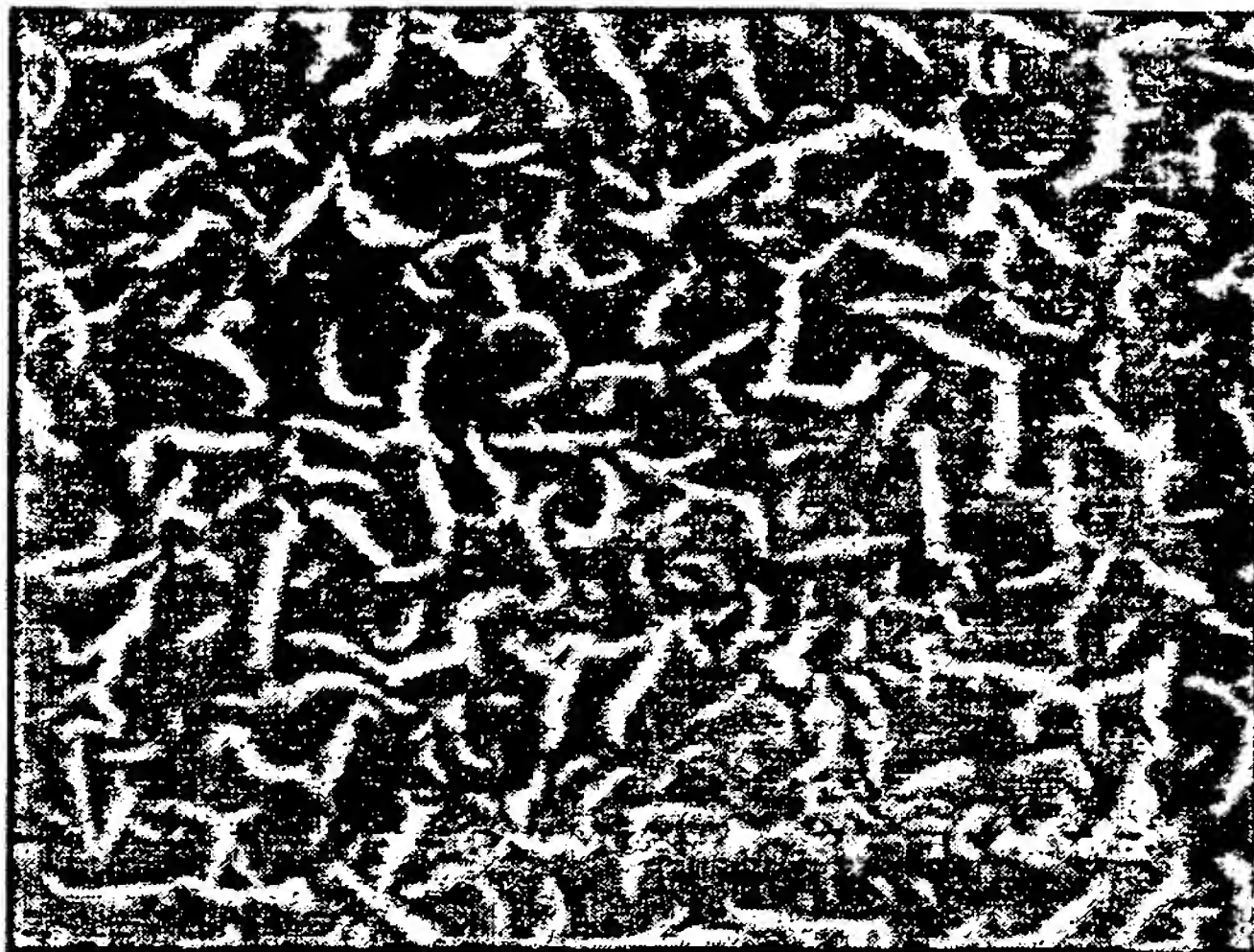
1 μ m

FIG. 8



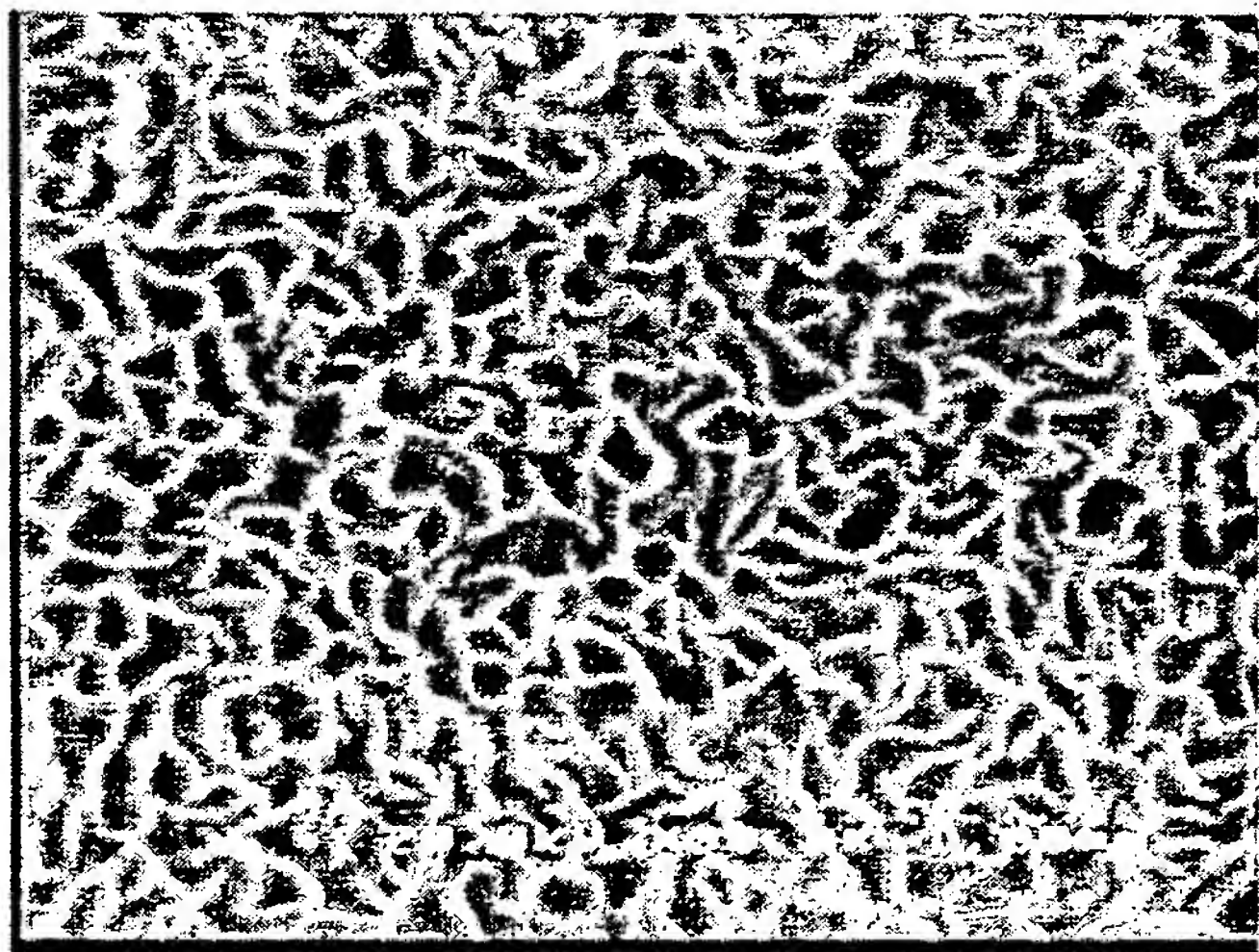
1 μ m

FIG. 9



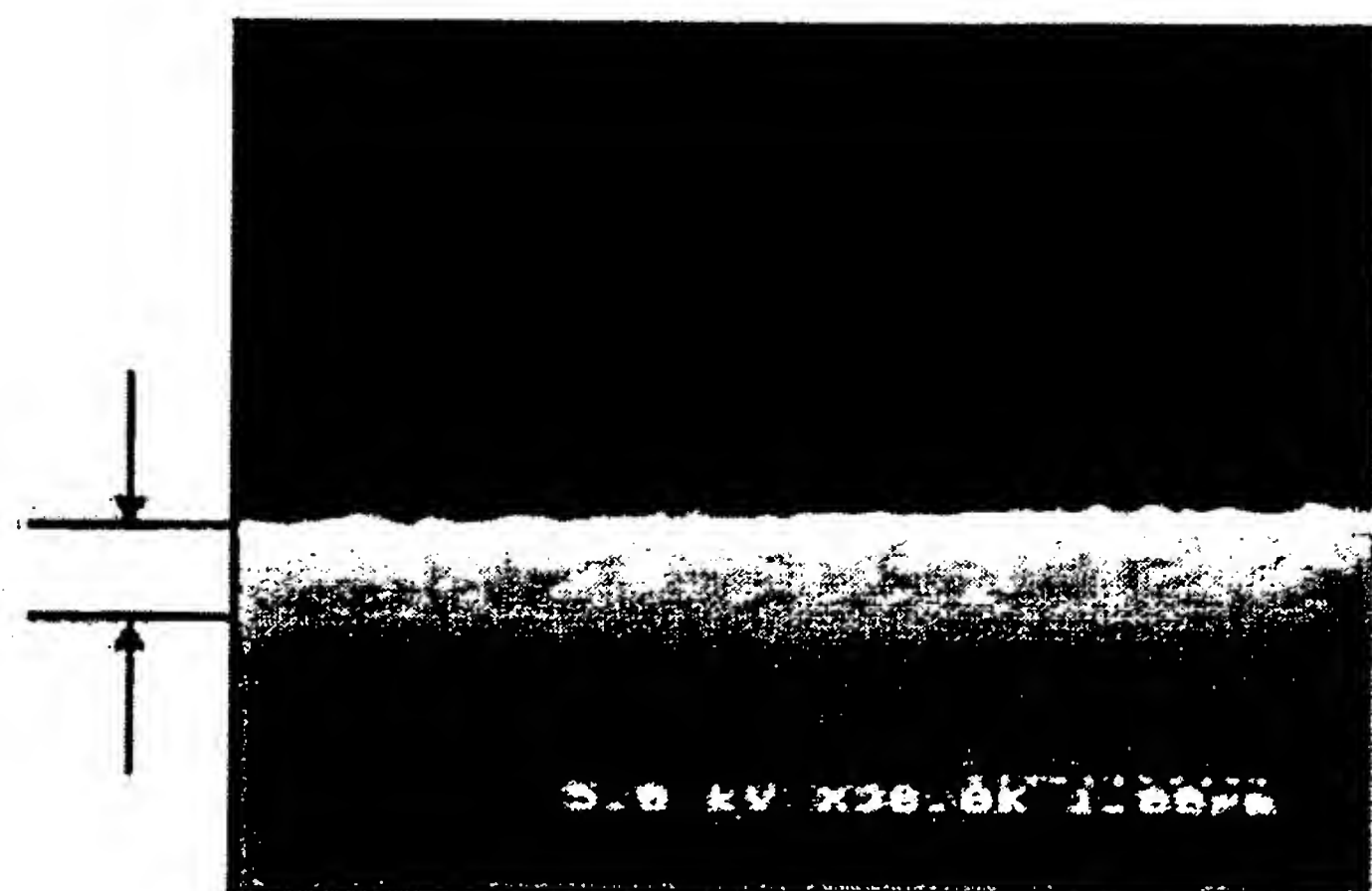
1 μ m

FIG. 10



1 μ m

FIG. 11



1 μm

FIG. 12



1 μm

FIG. 13

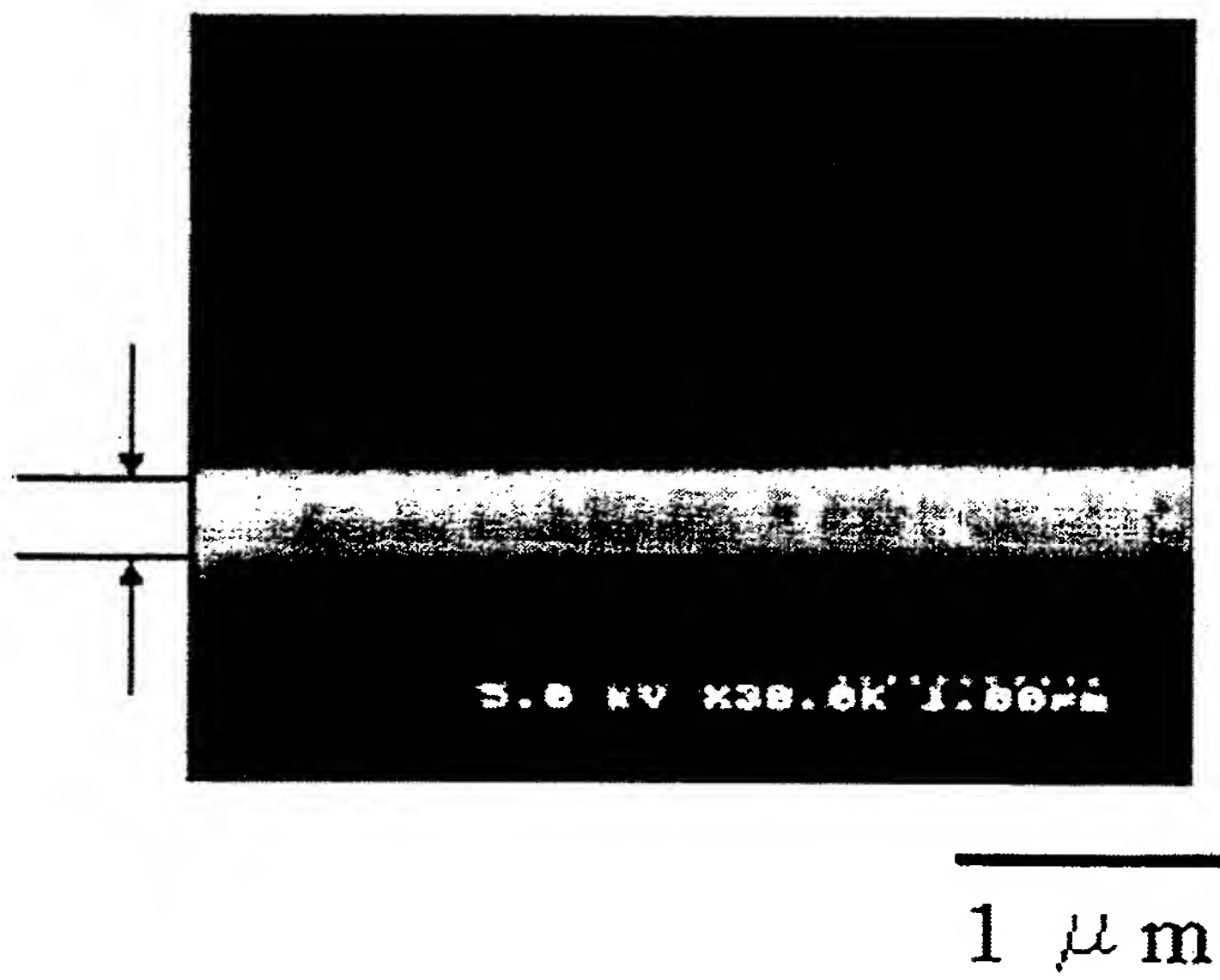


FIG. 14

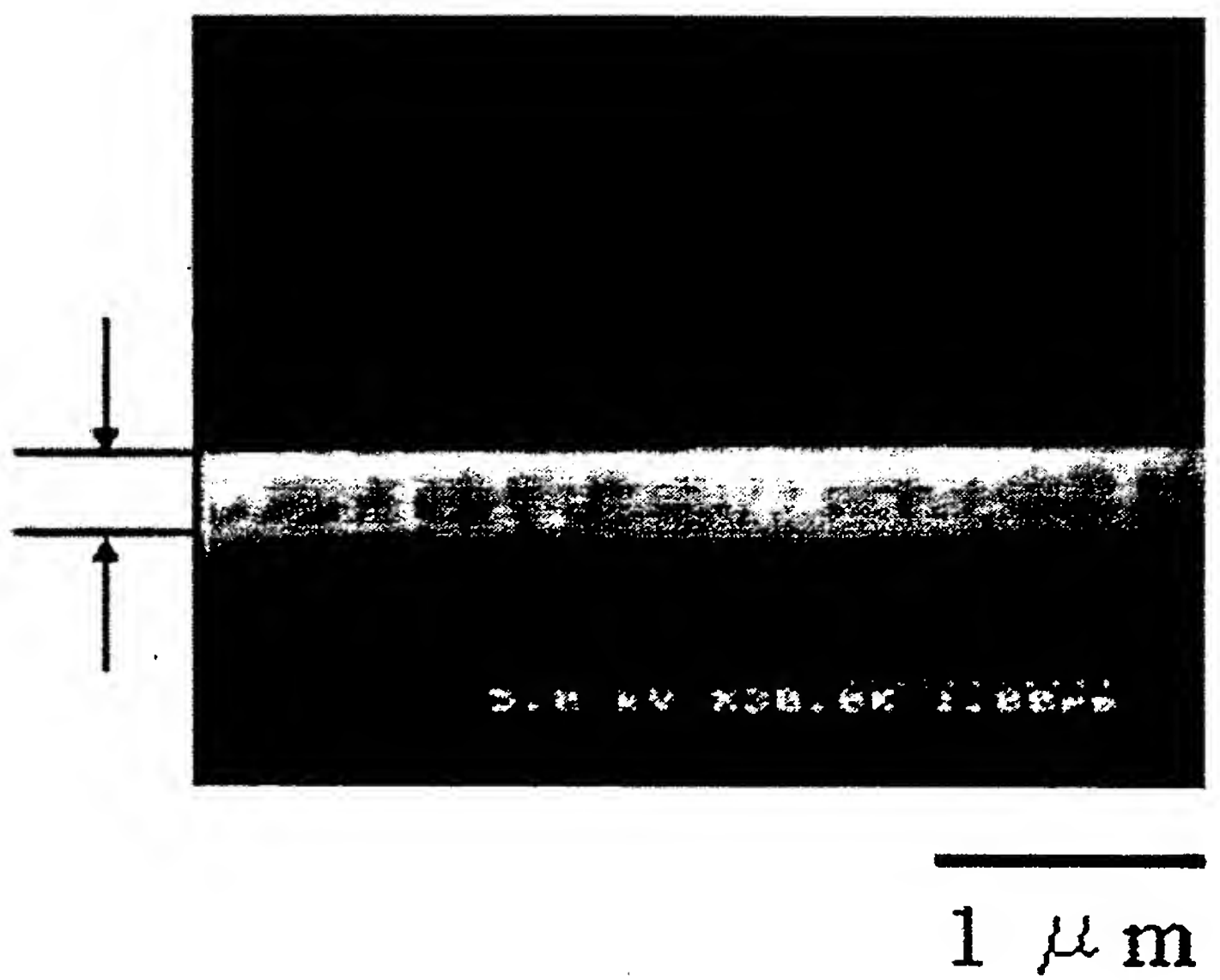


FIG. 15

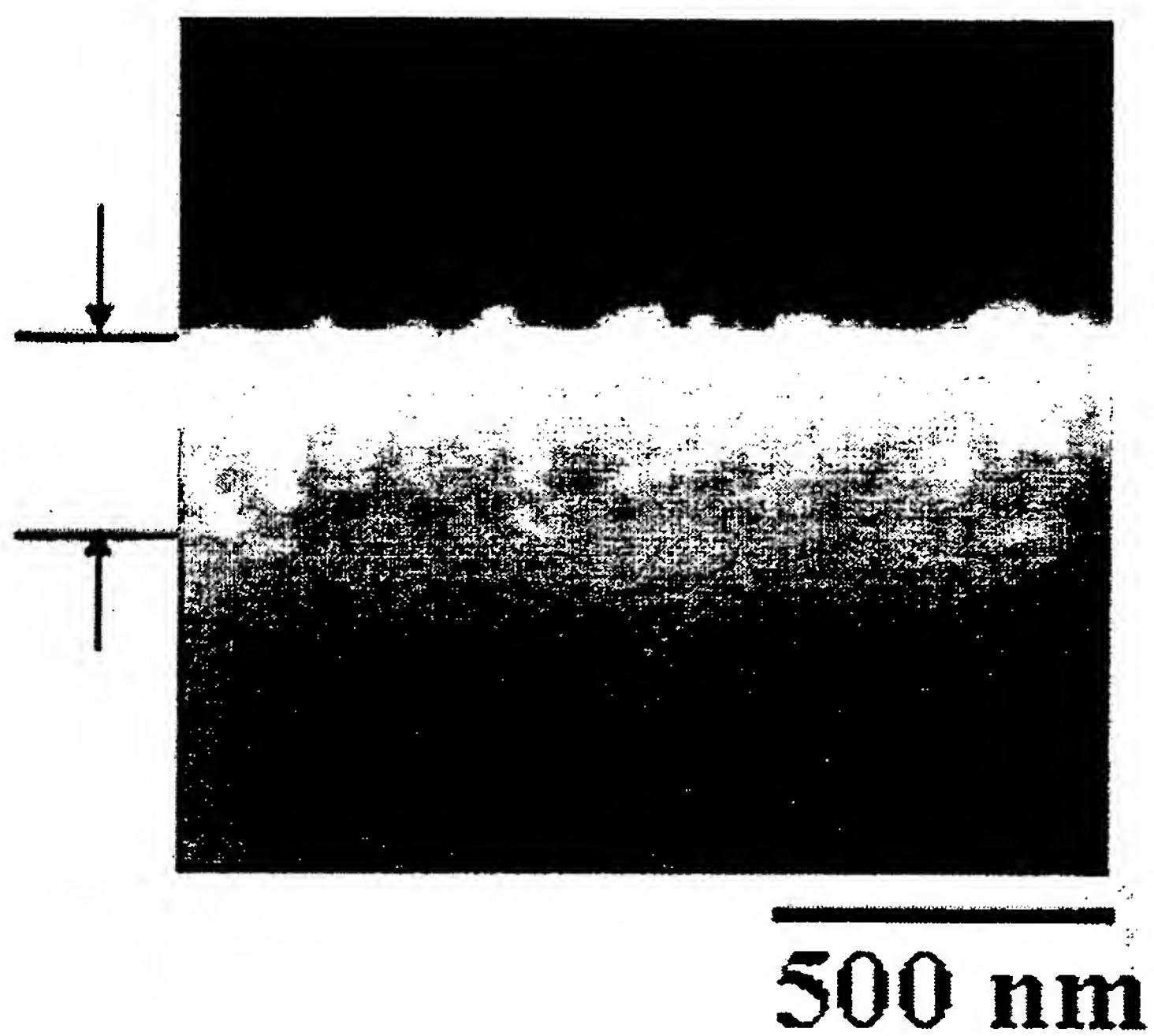


FIG. 16

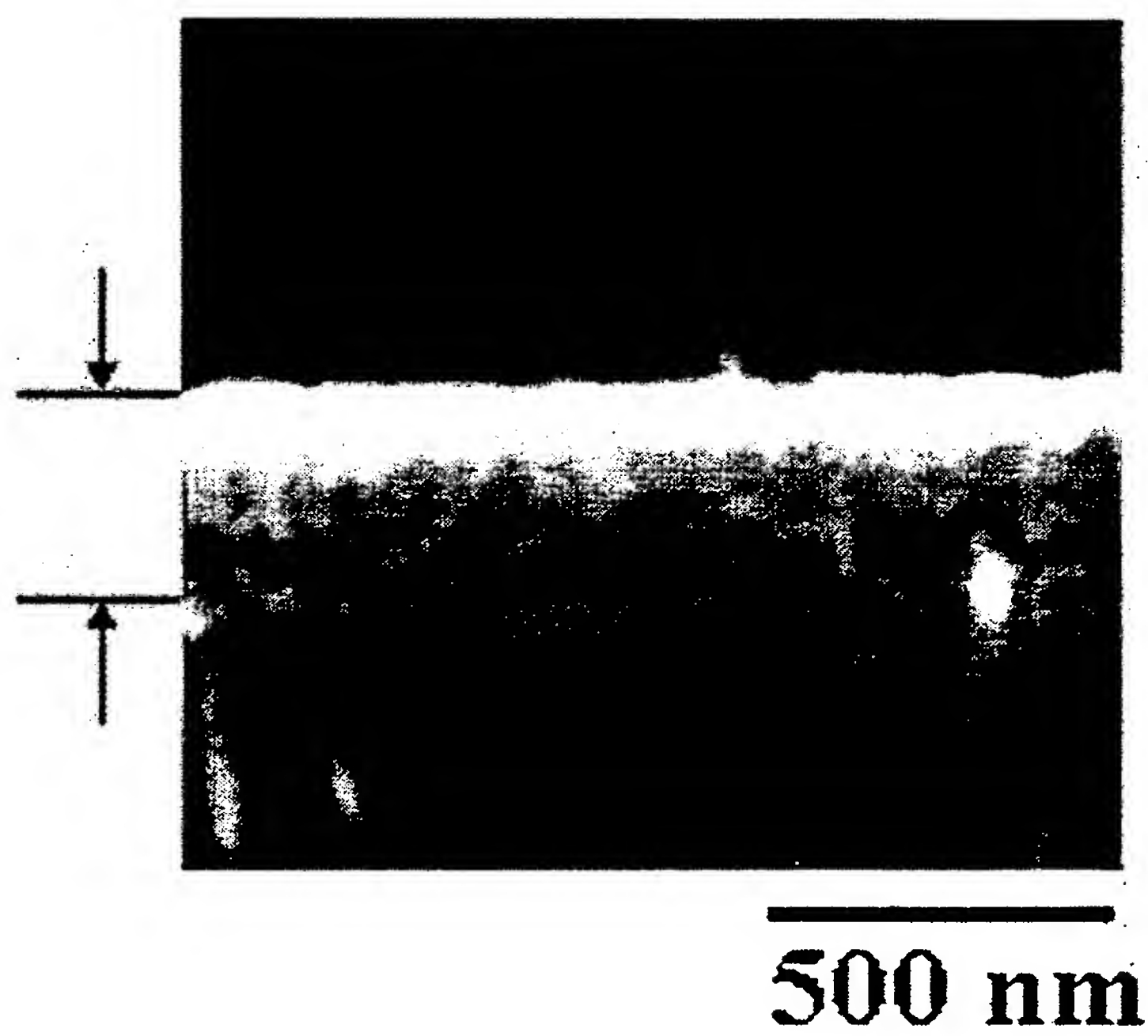


FIG. 17

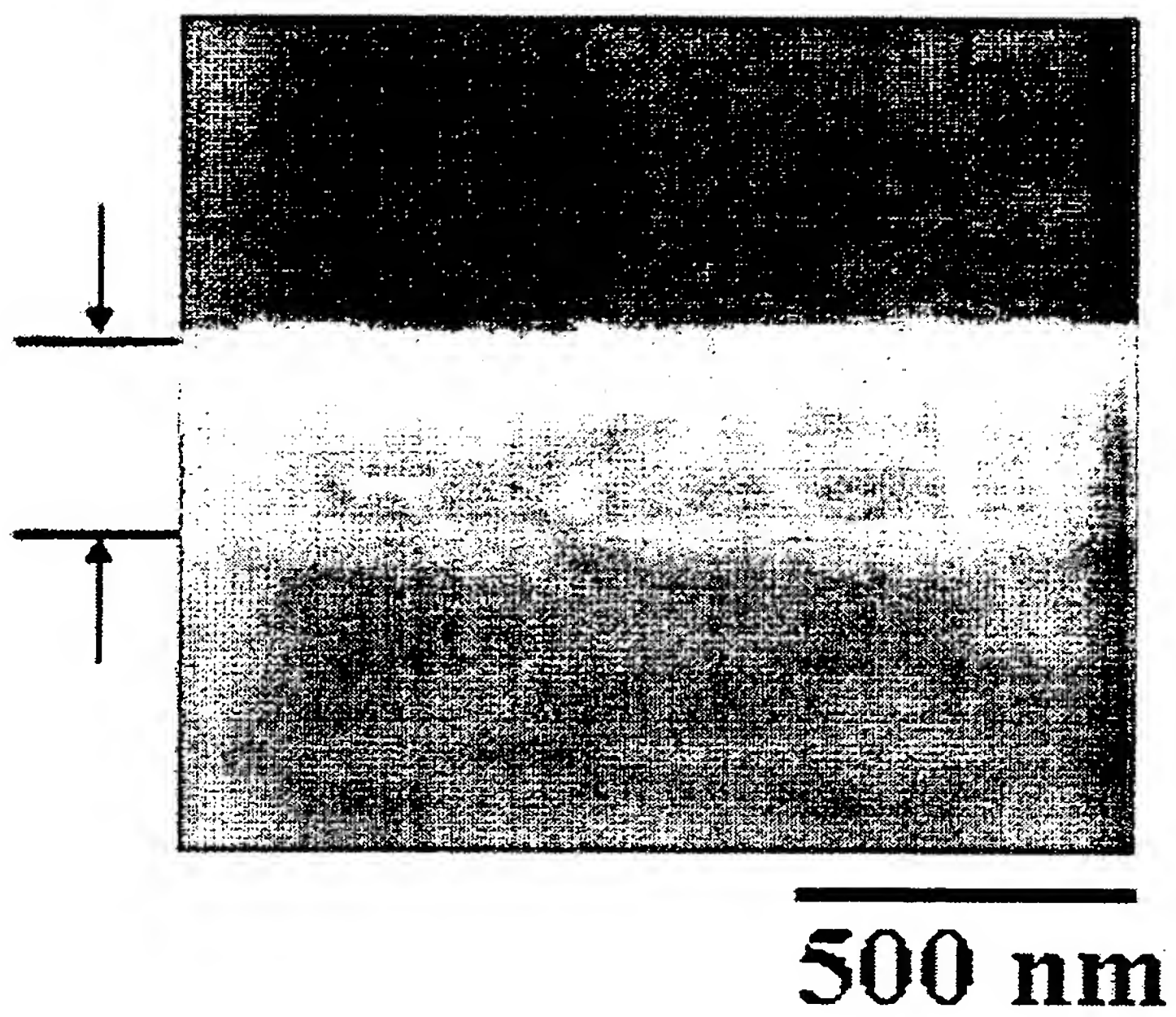


FIG. 18

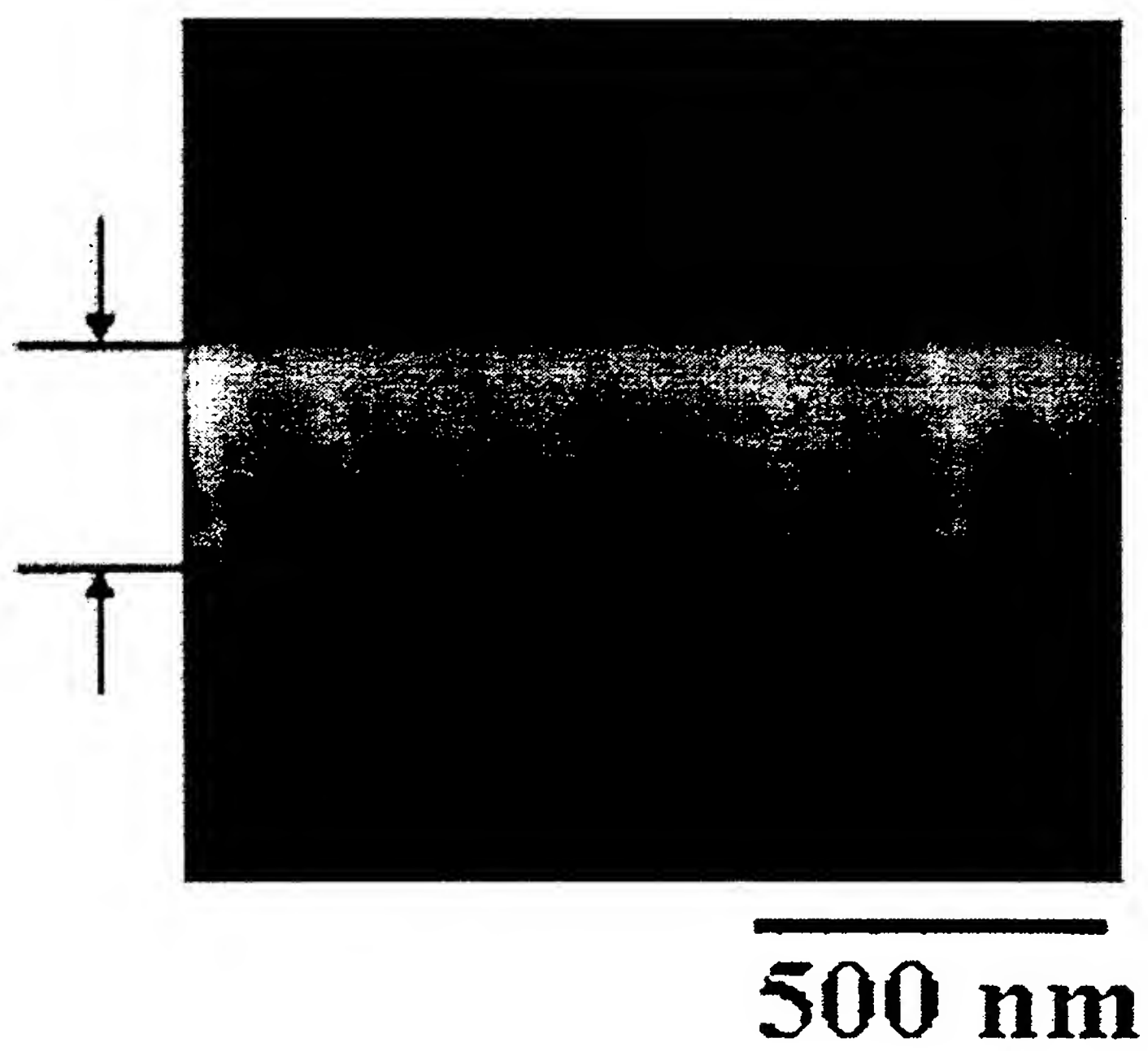
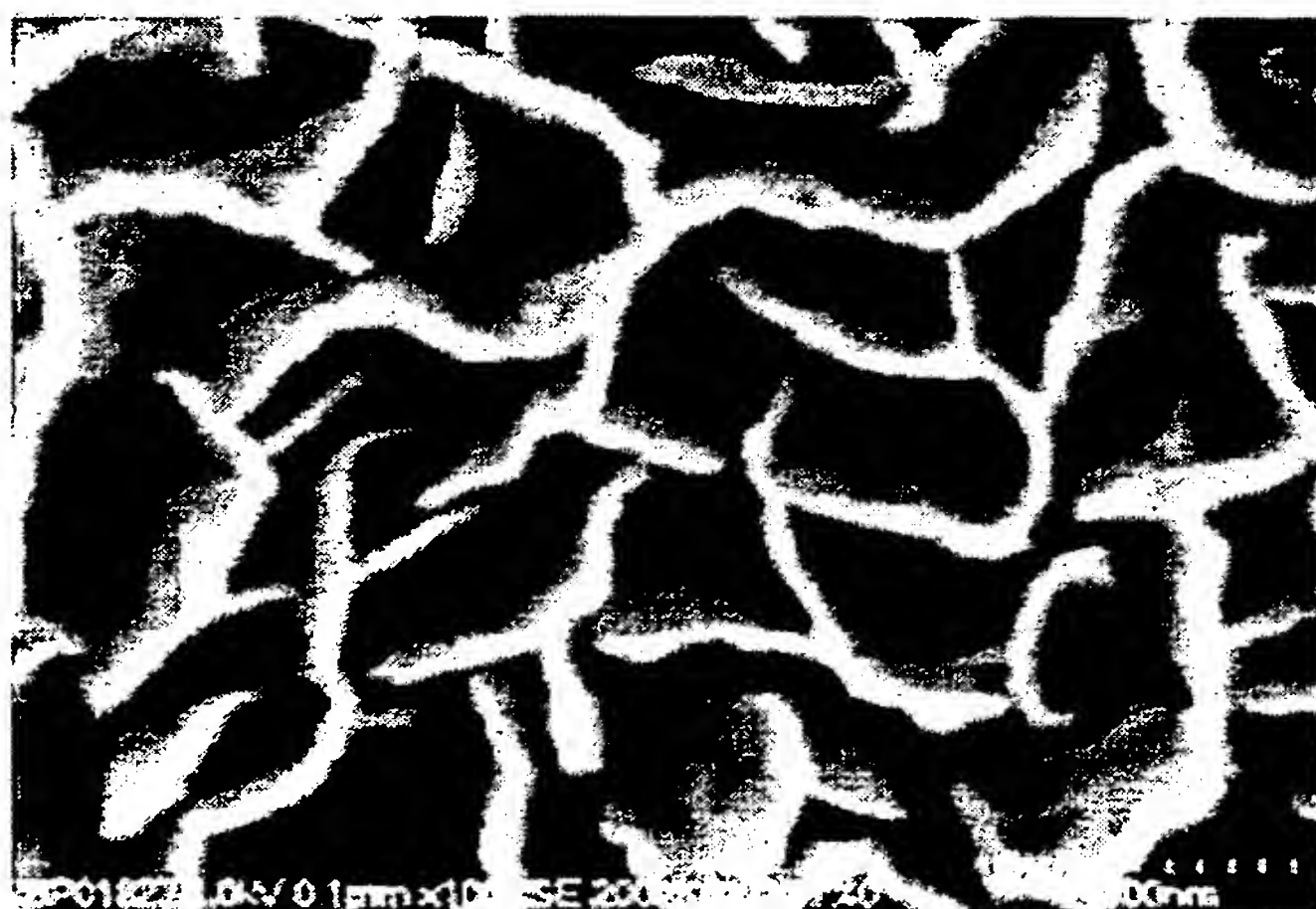


FIG. 19



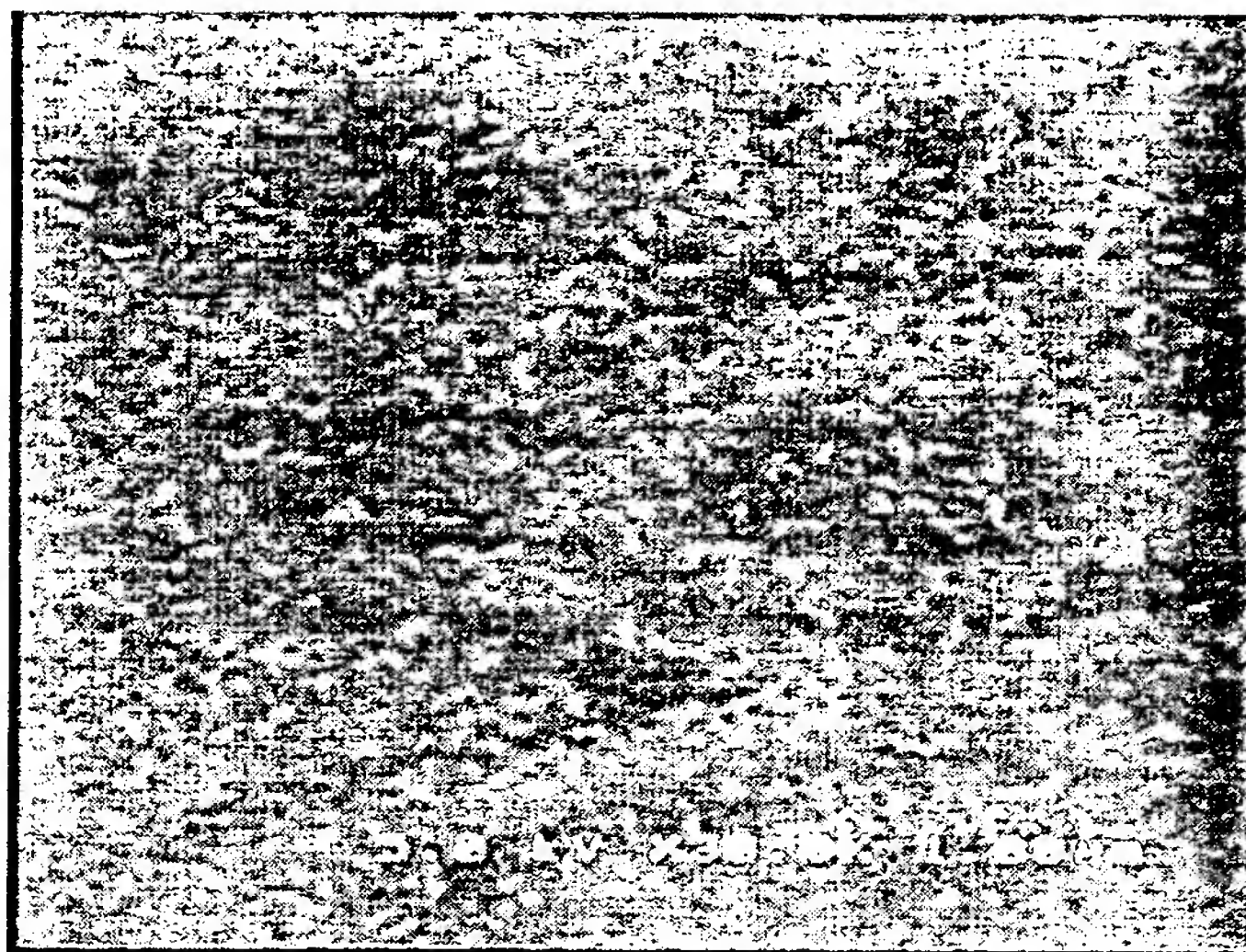
300 nm

FIG. 20



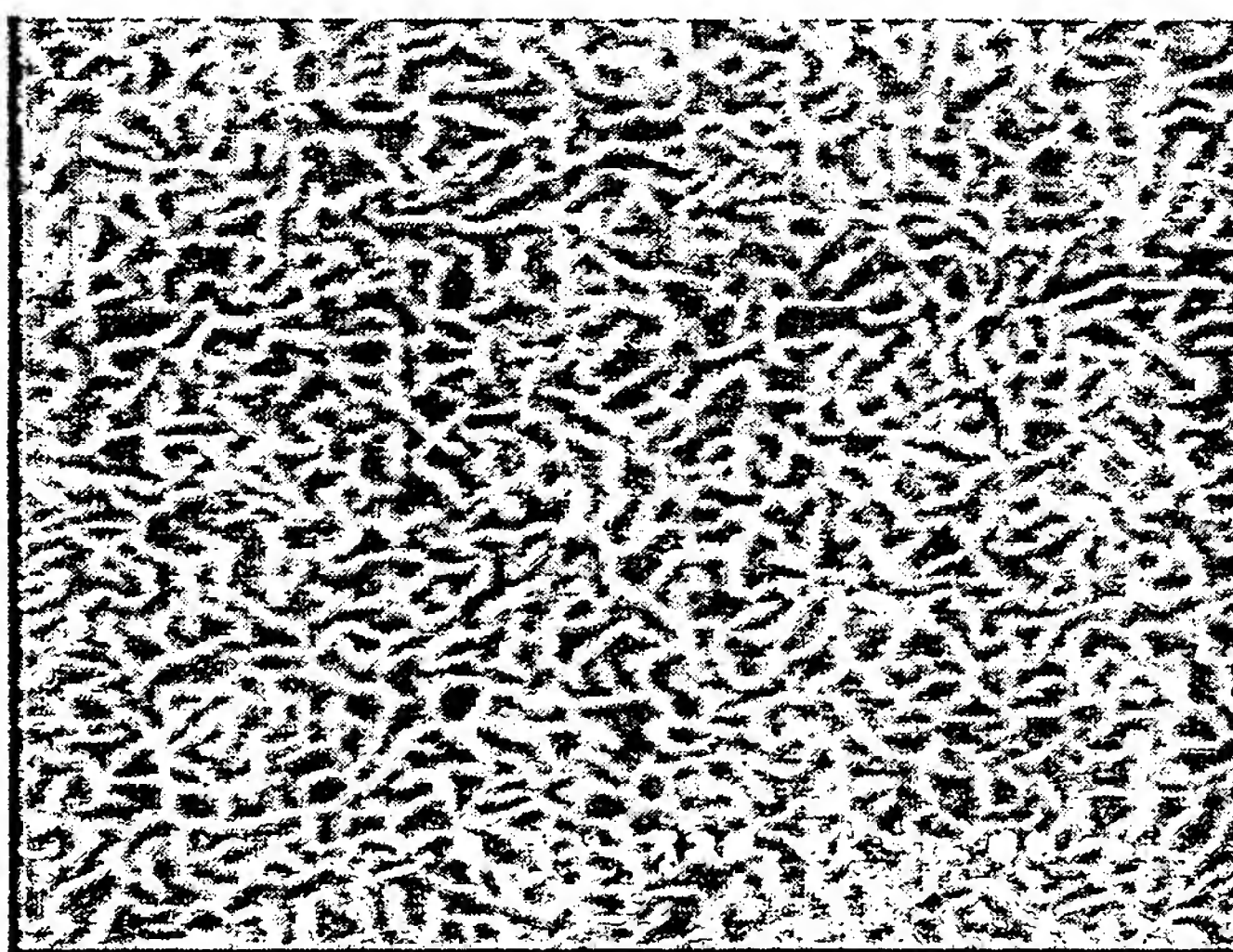
300 nm

FIG. 21



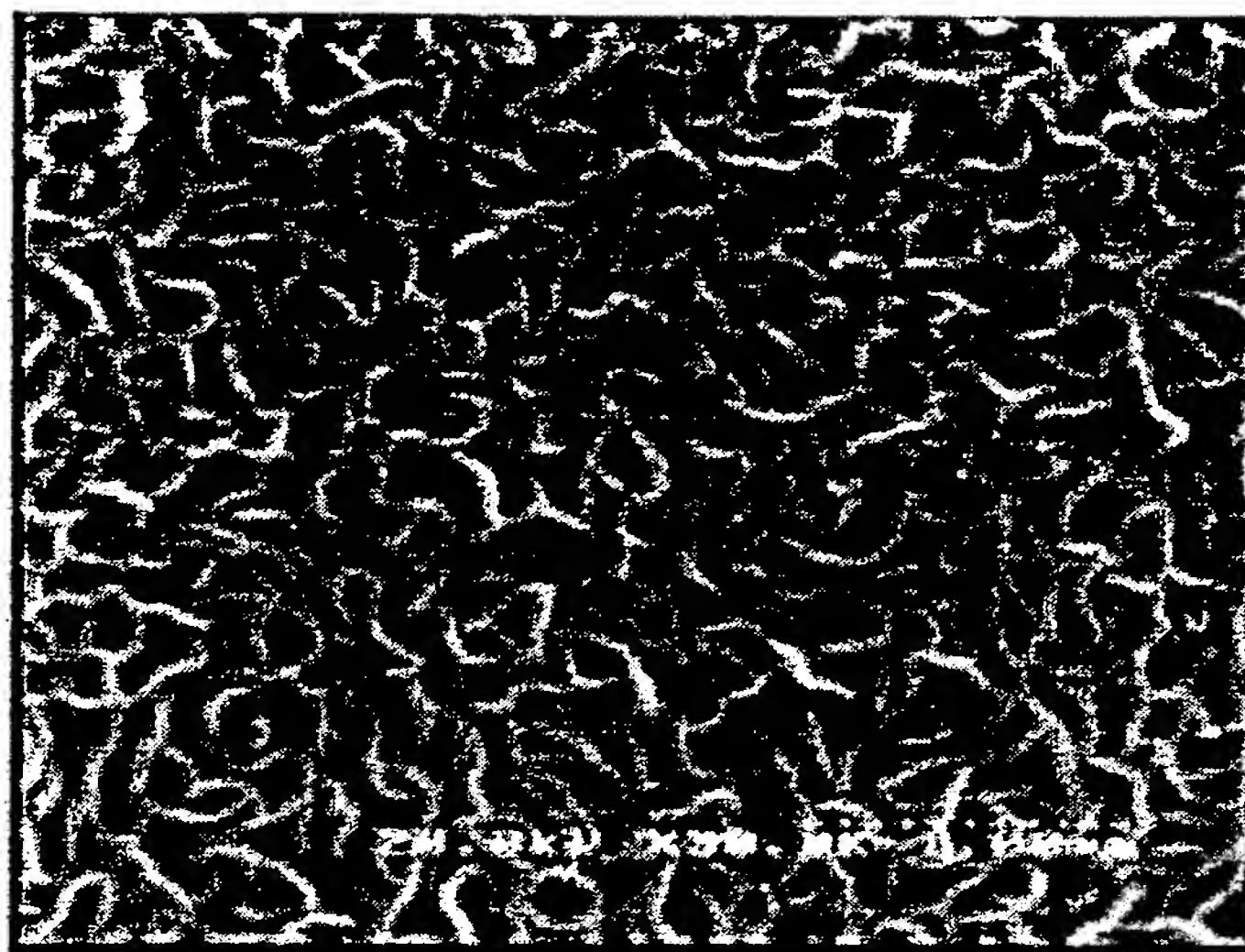
1 μ m

FIG. 22



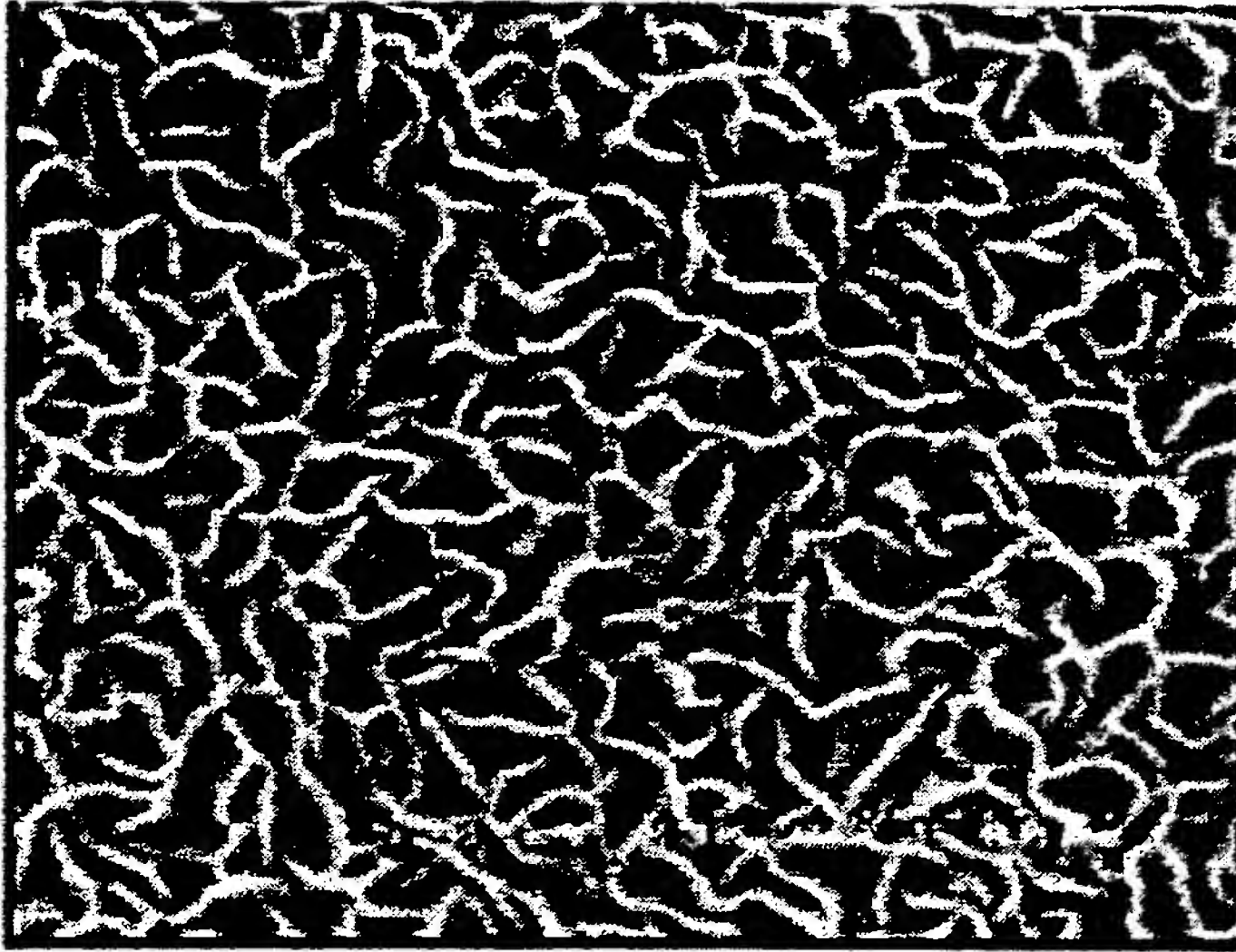
1 μ m

FIG. 23



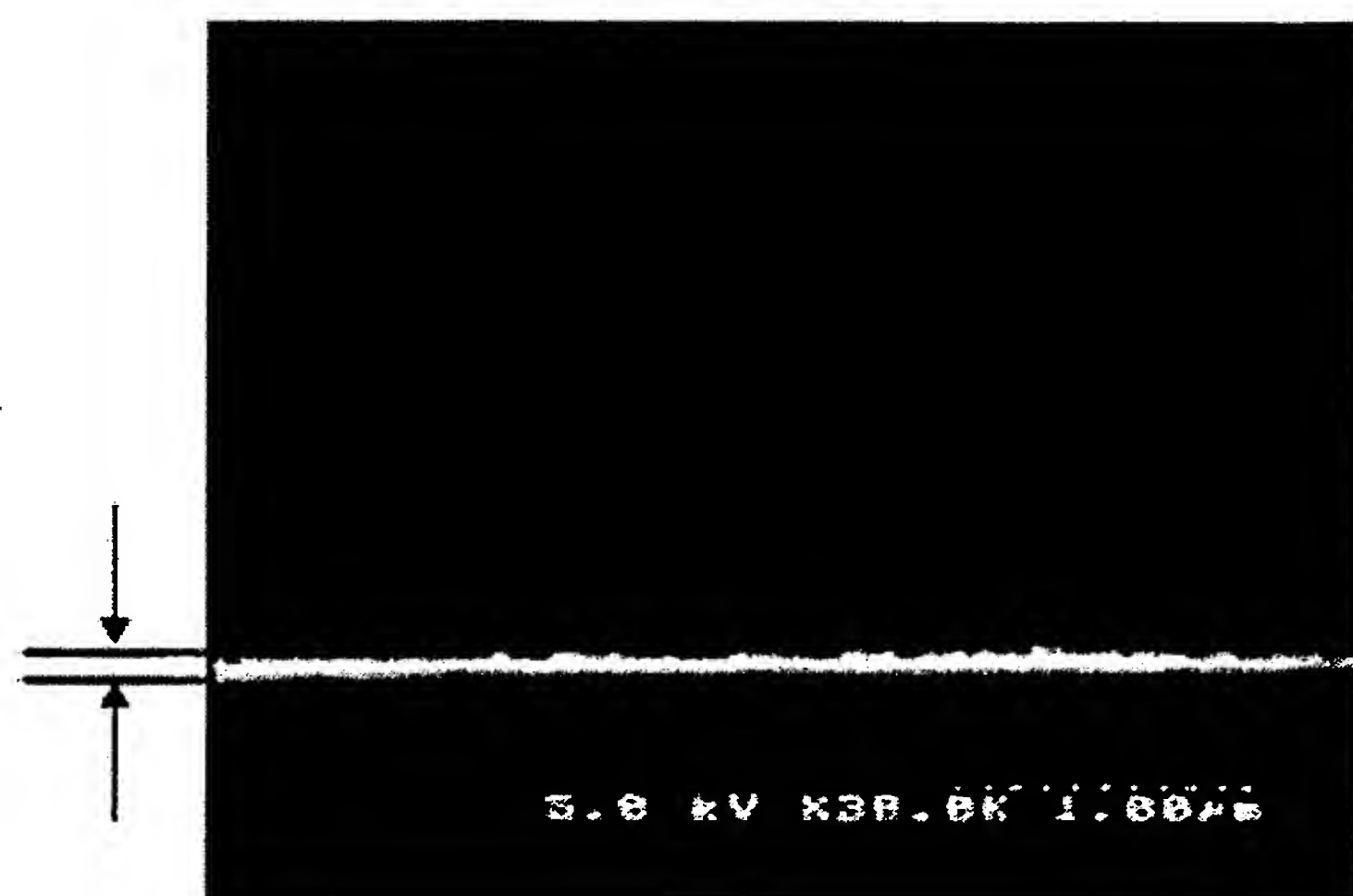
1 μ m

FIG. 24



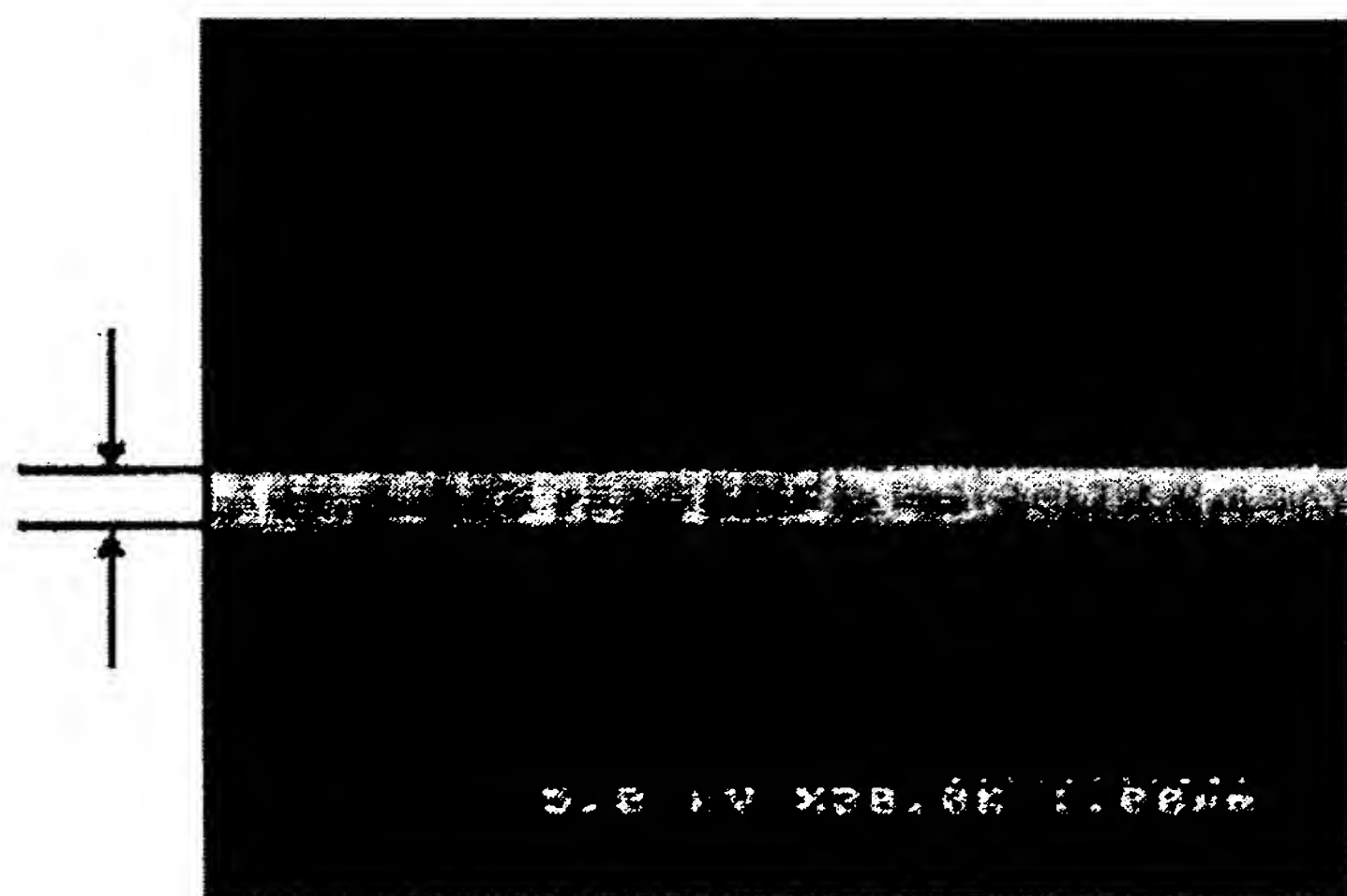
—
1 μ m

FIG. 25



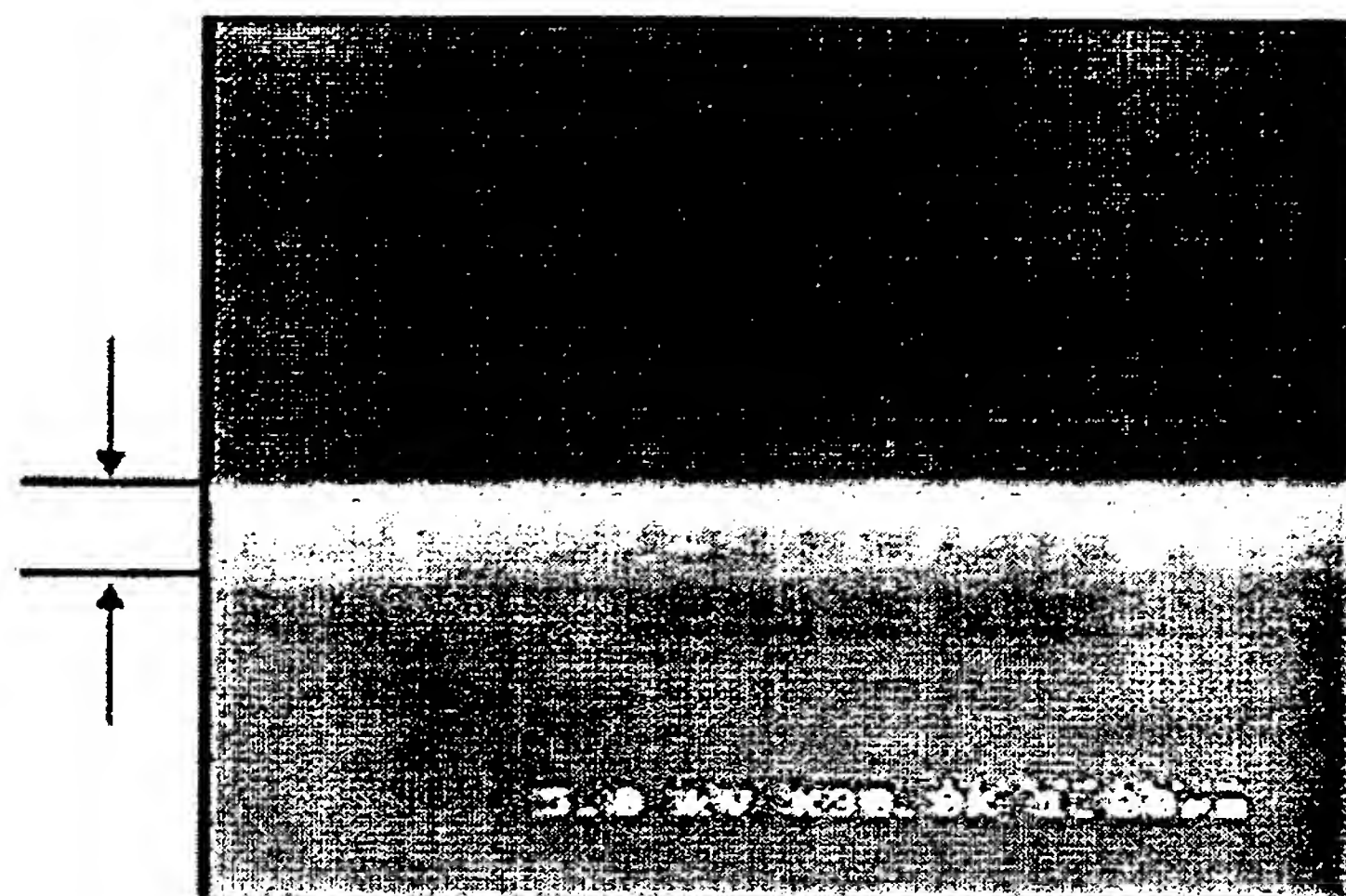
1 μ m

FIG. 26



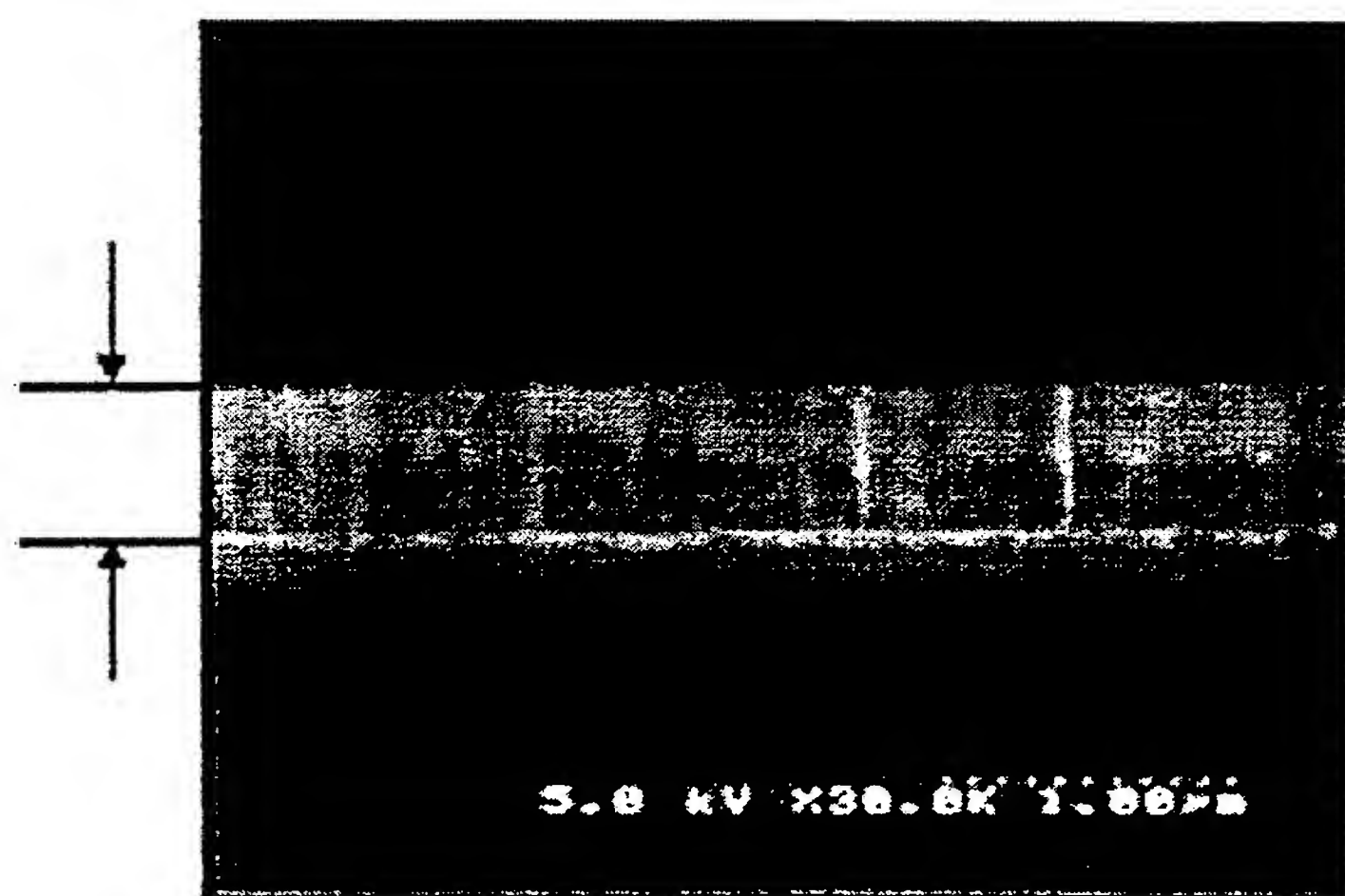
1 μ m

FIG. 27



1 μ m

FIG. 28



1 μ m

FIG. 29

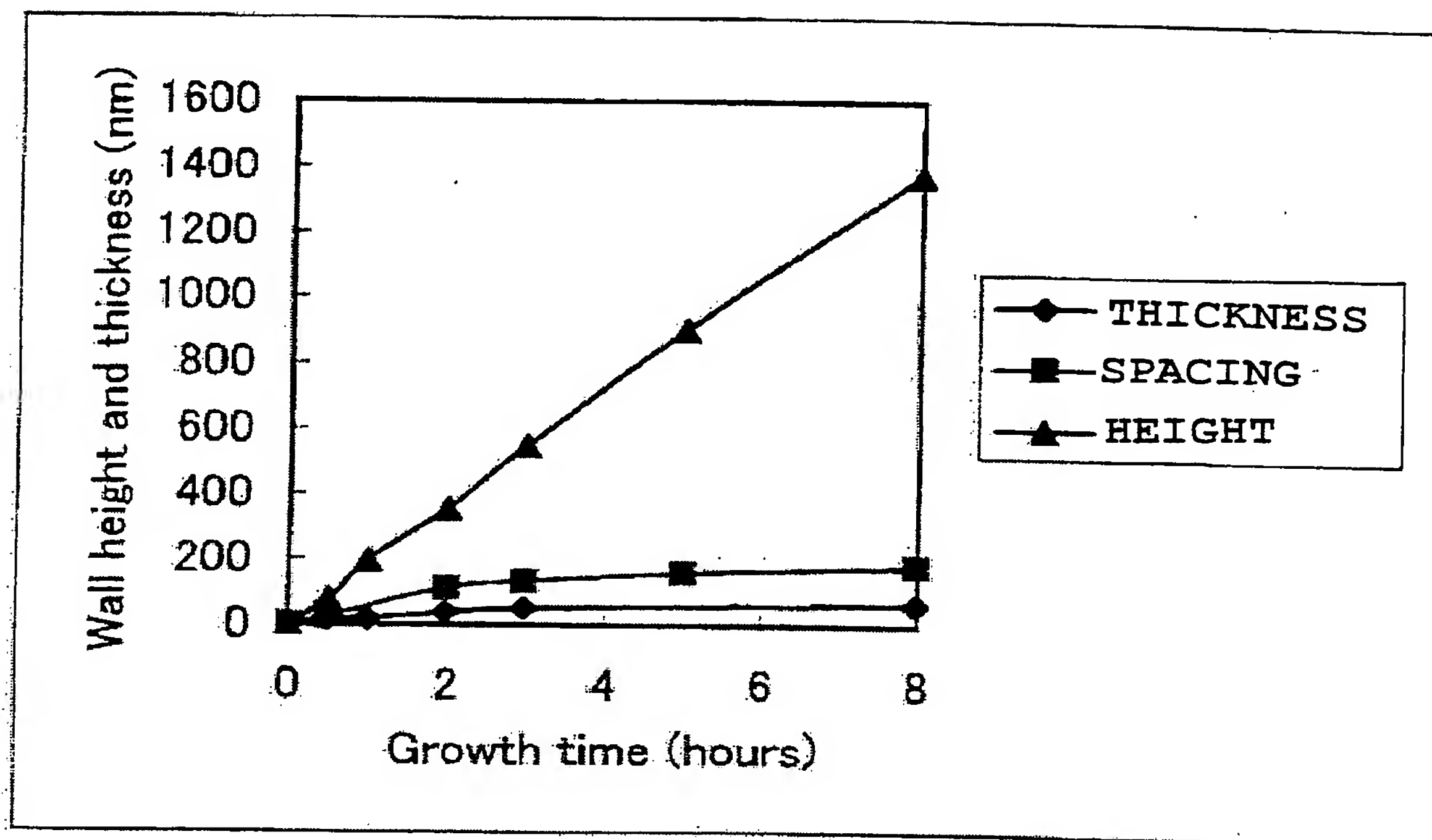


FIG. 30

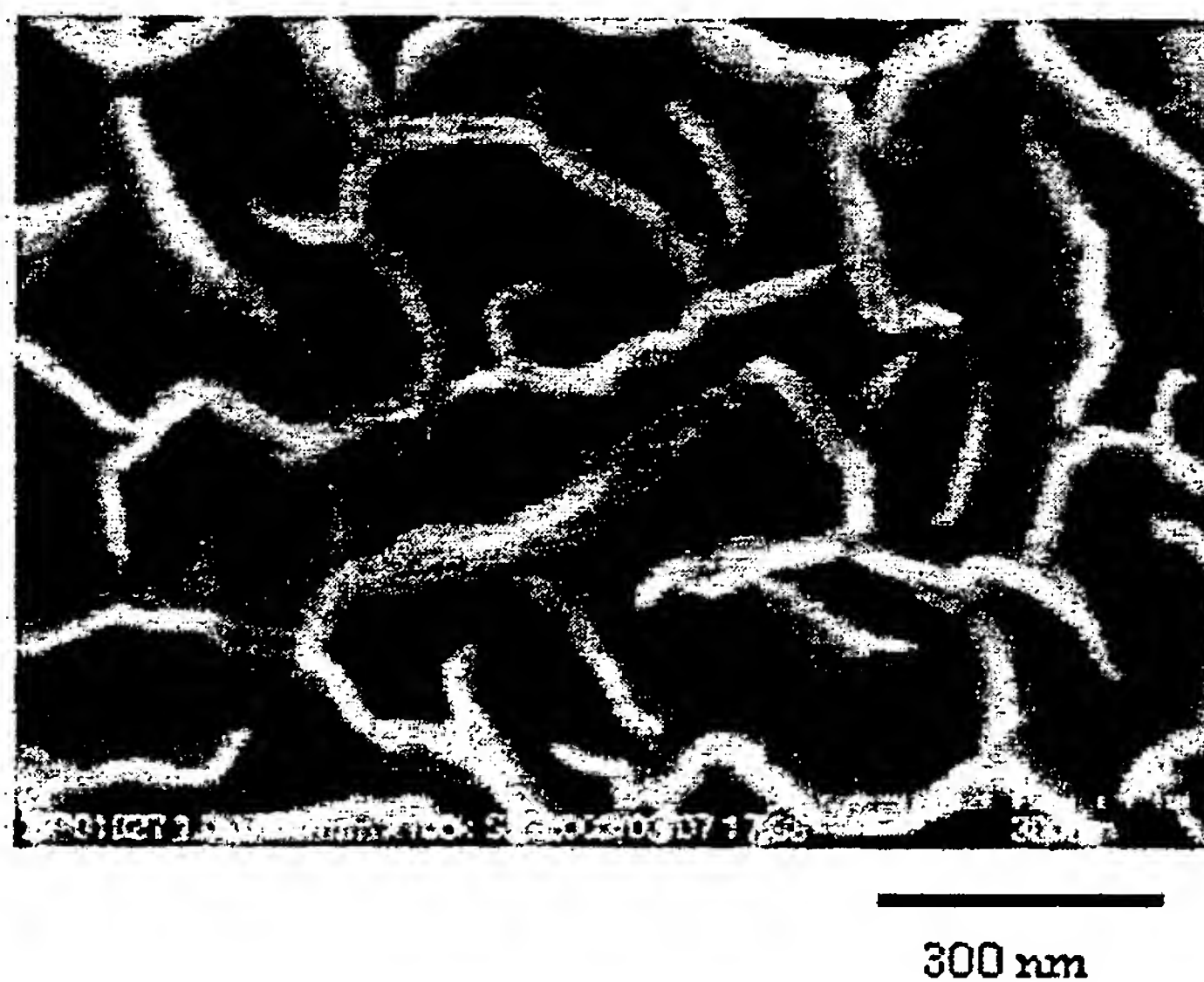


FIG. 31

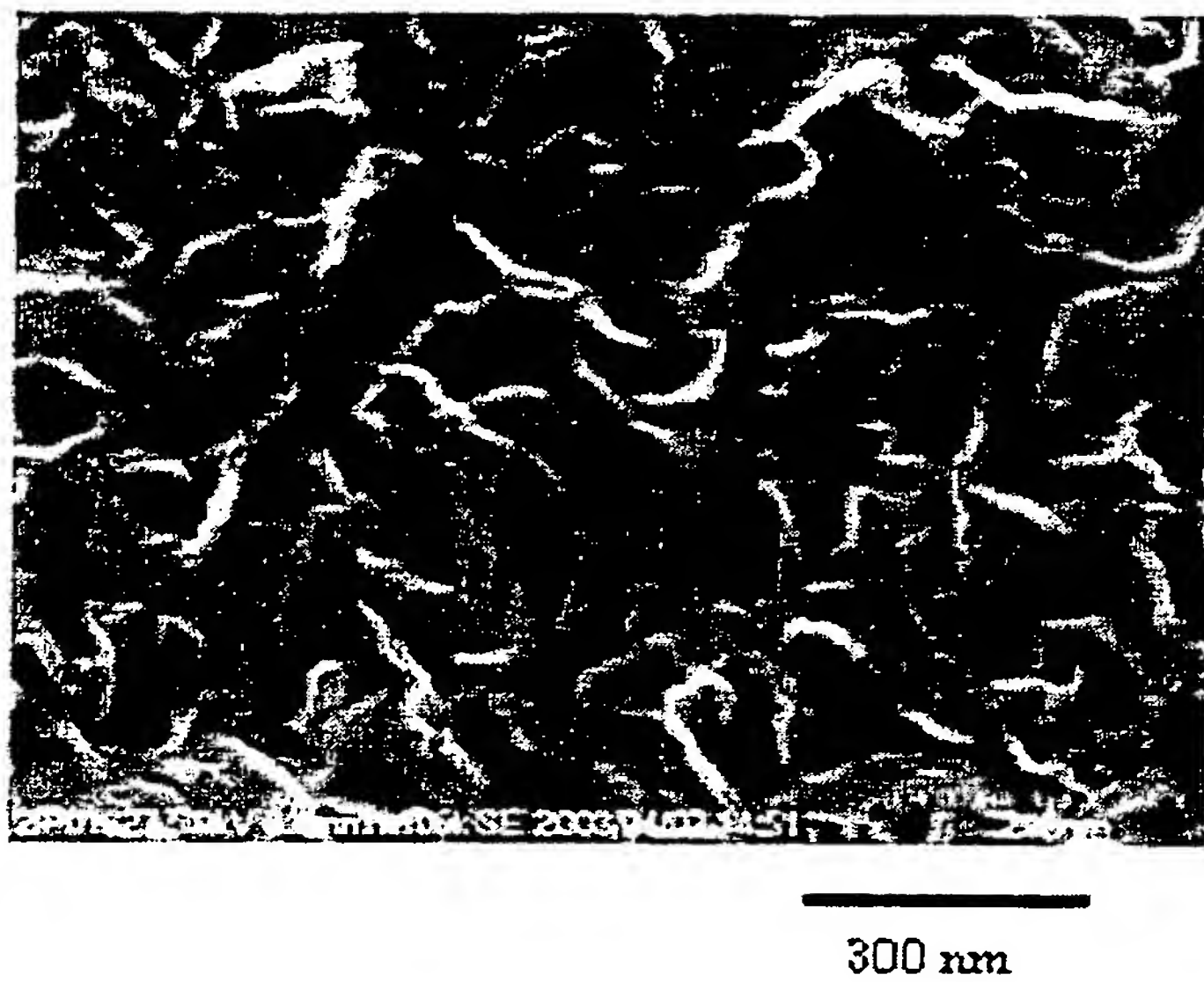


FIG. 32

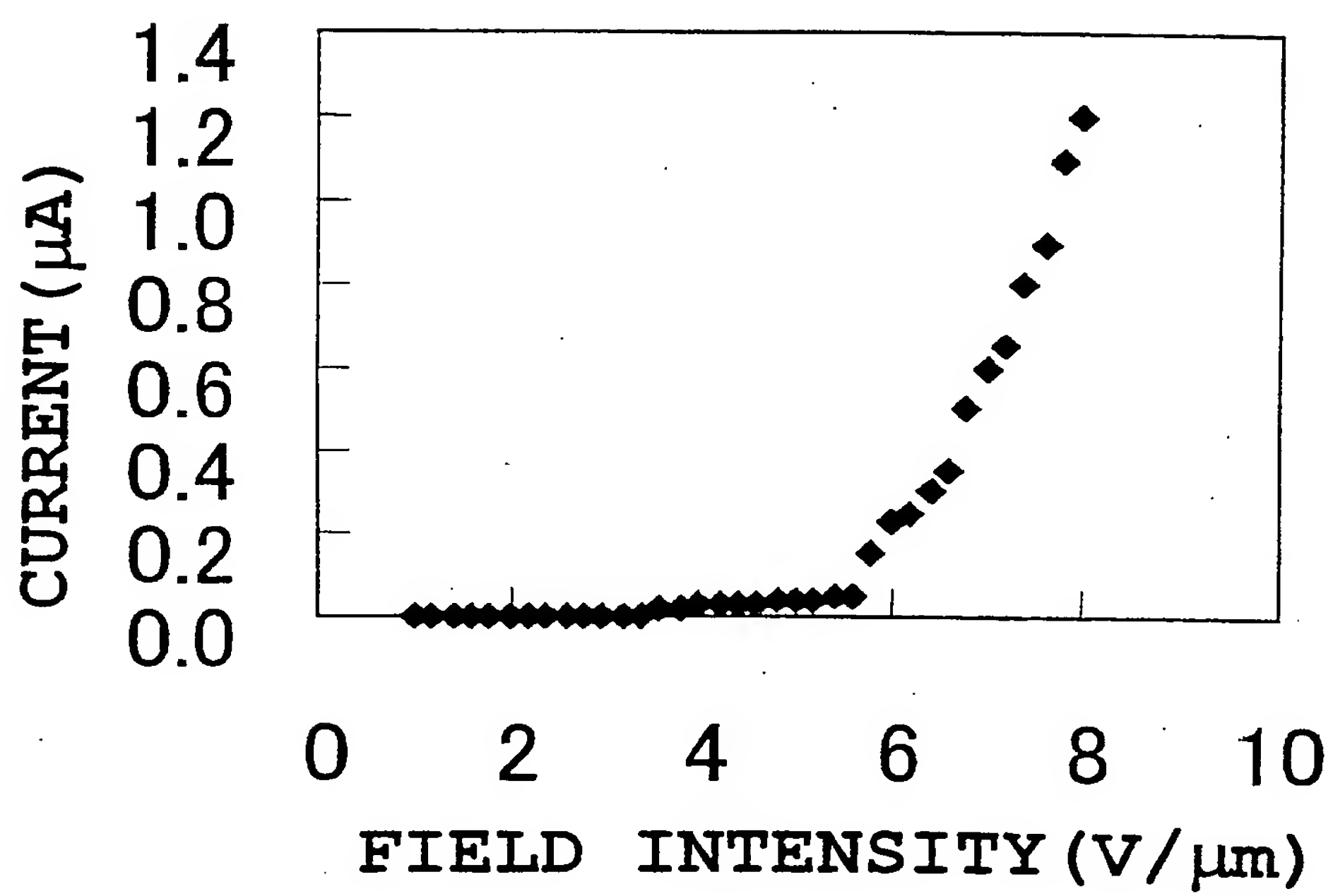


FIG. 33

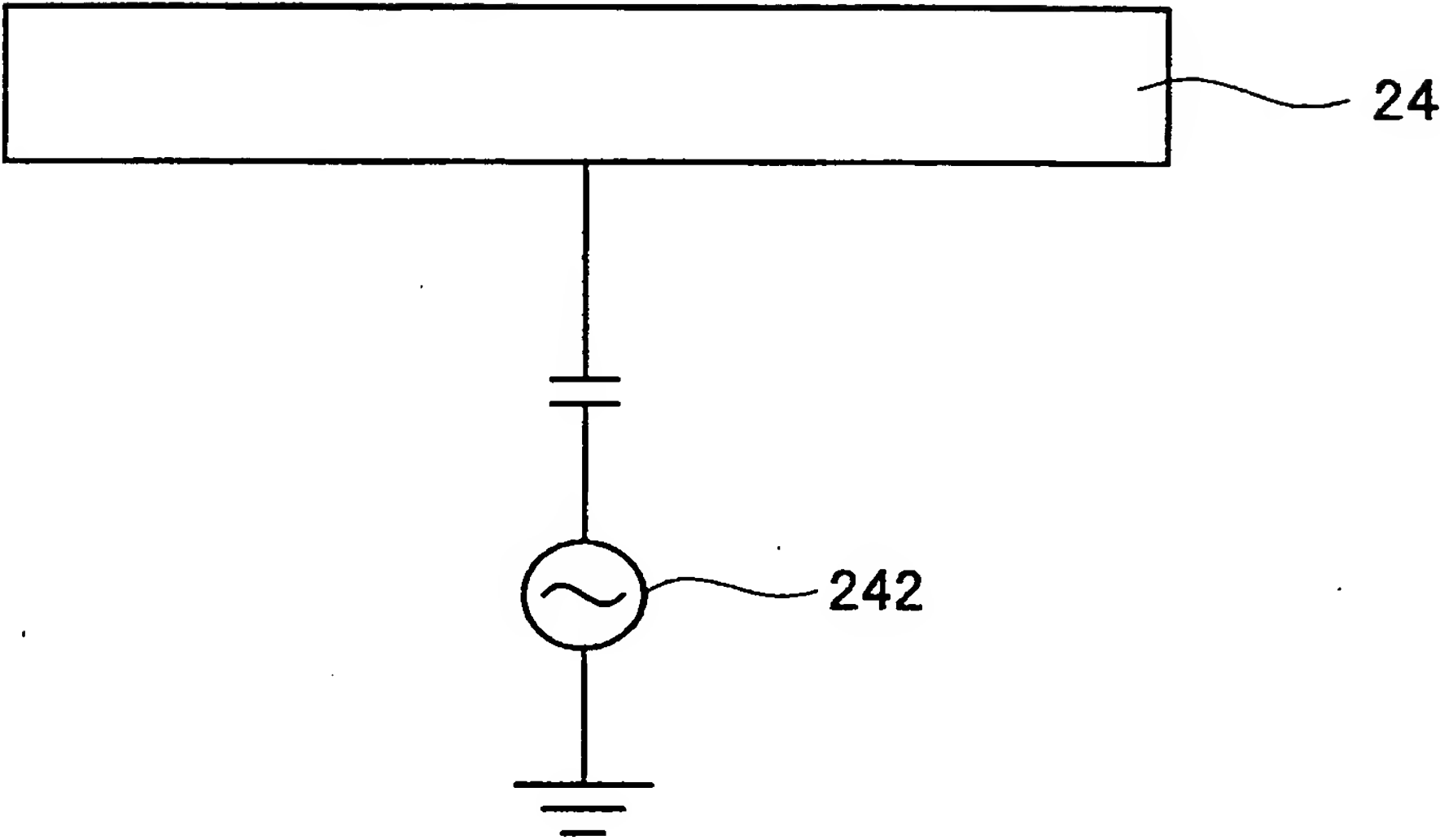


FIG. 34

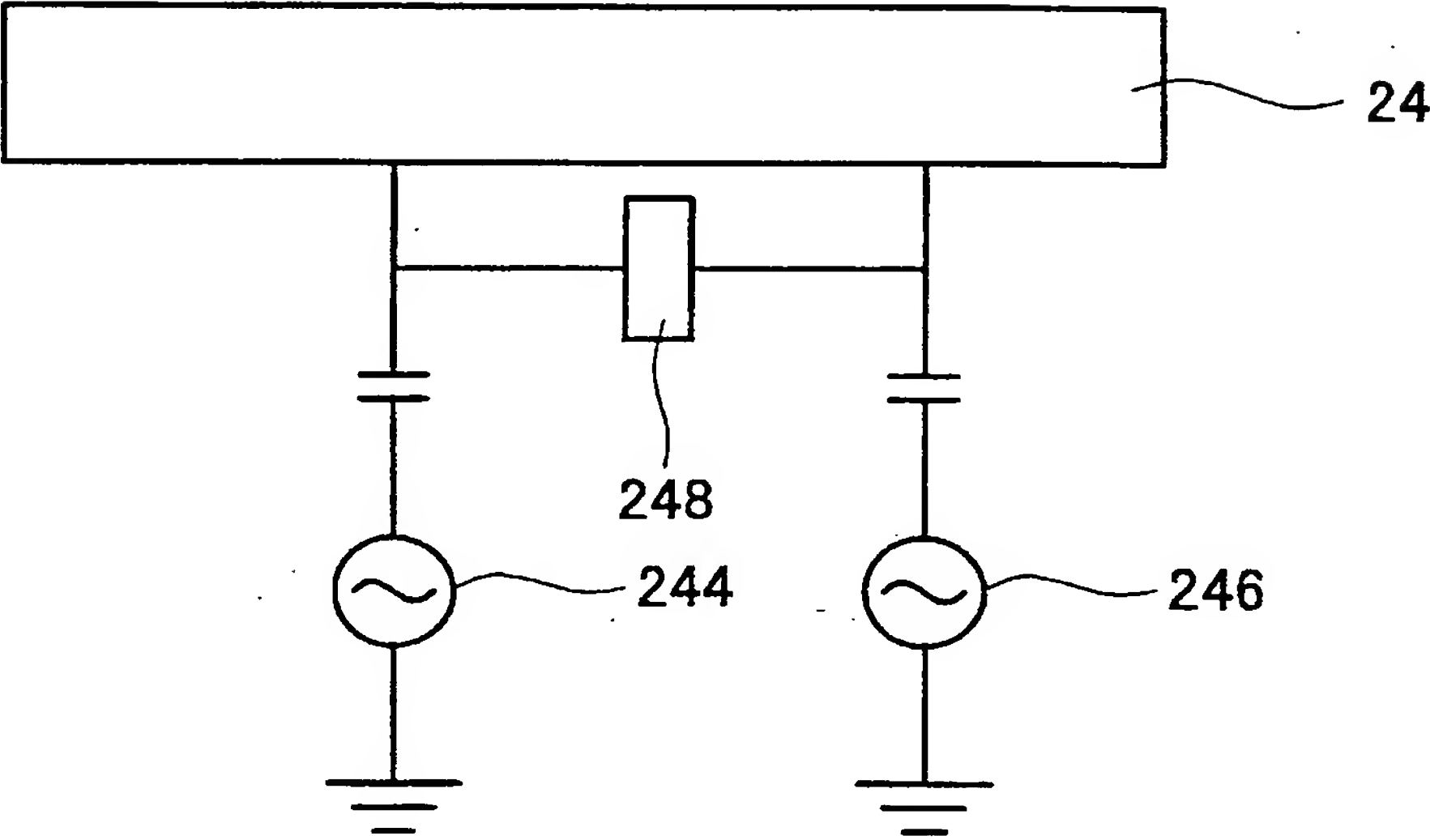
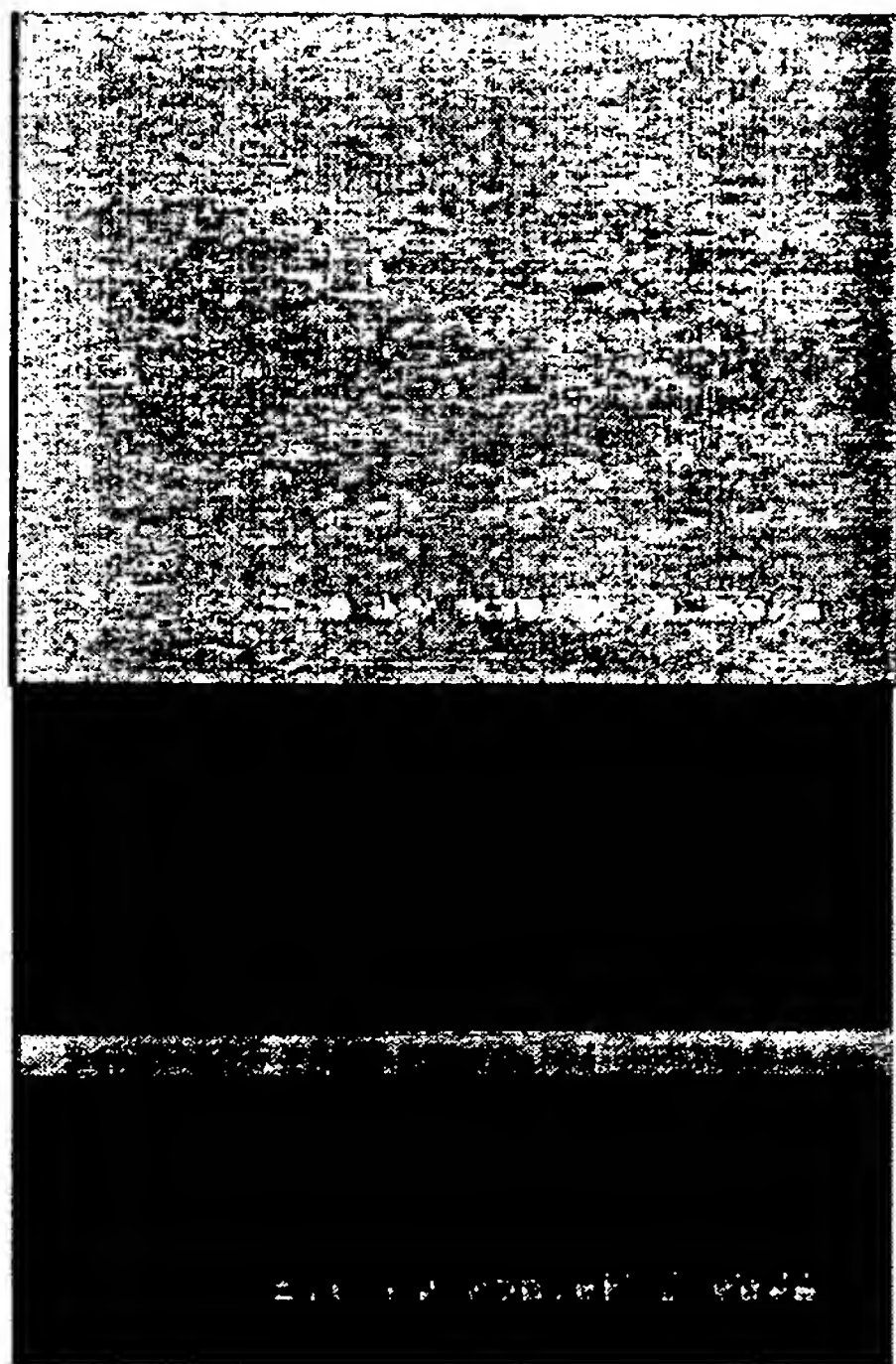
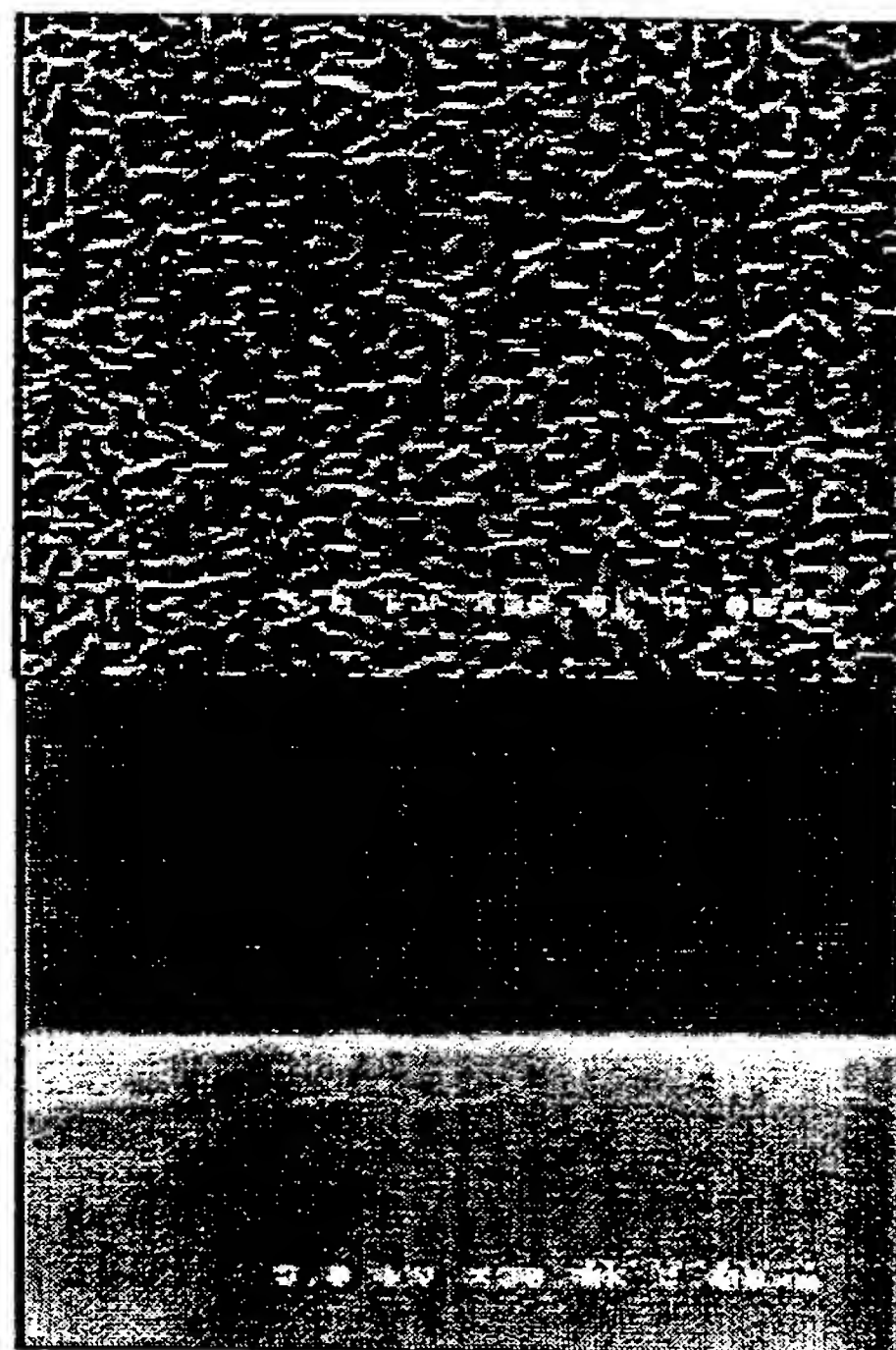


FIG. 35

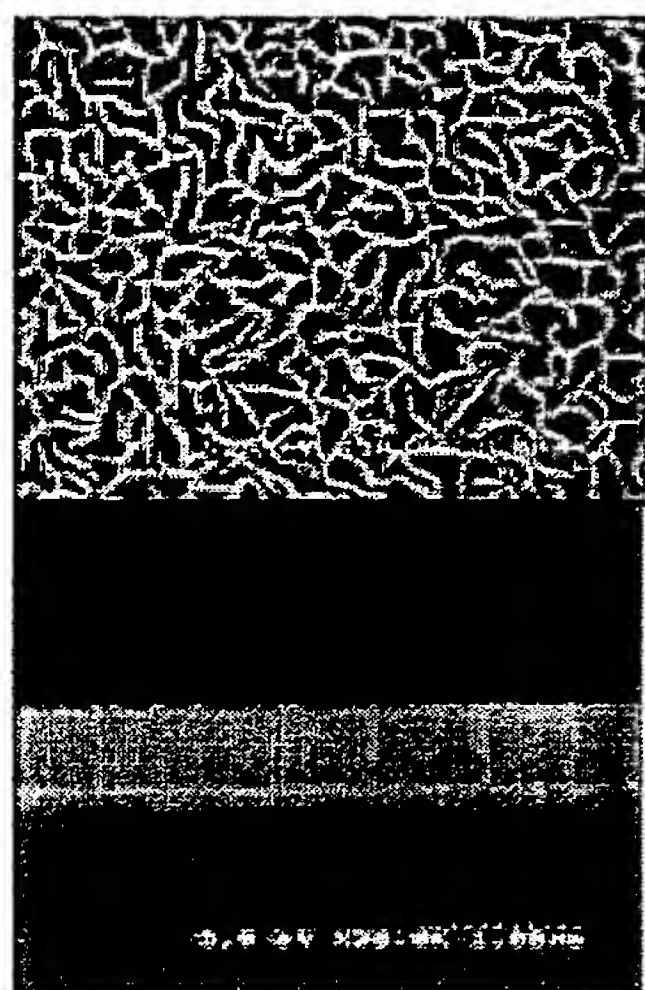


1 h

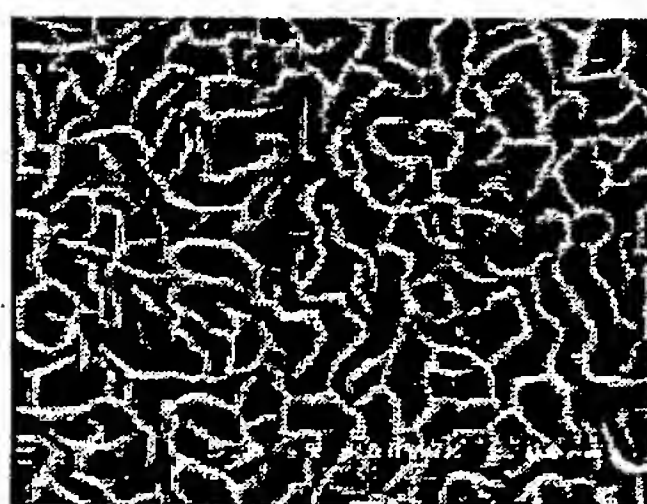


2 h

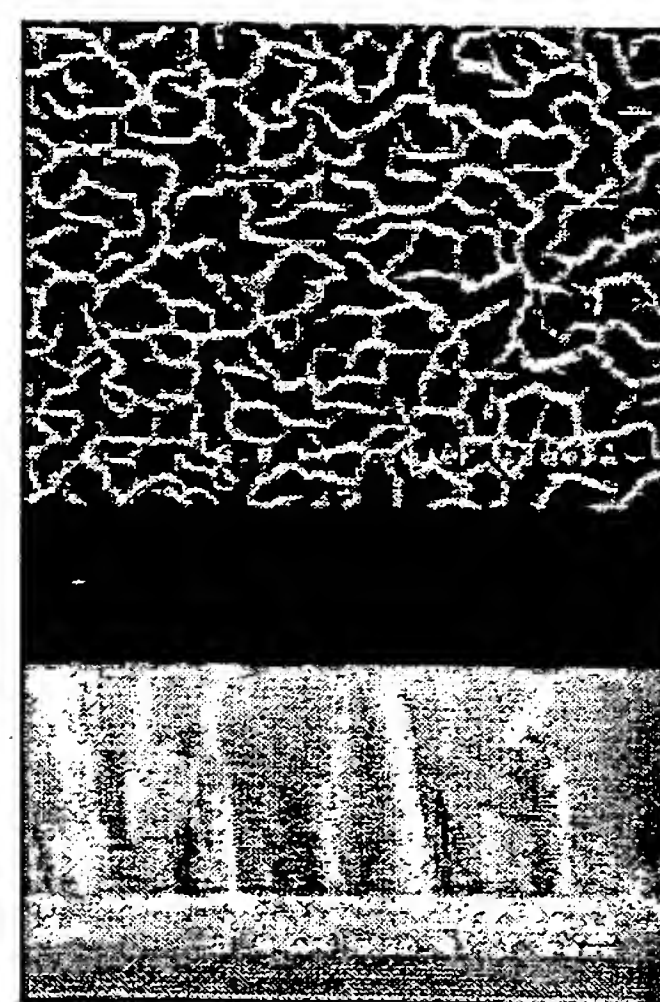
FIG. 36



3 h

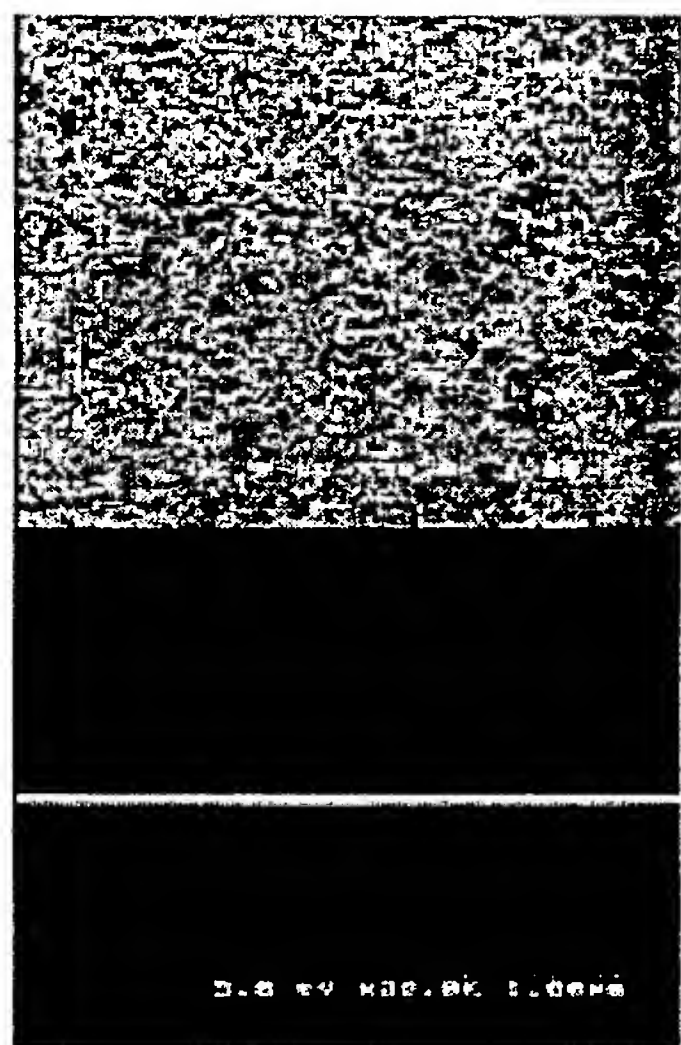


5 h

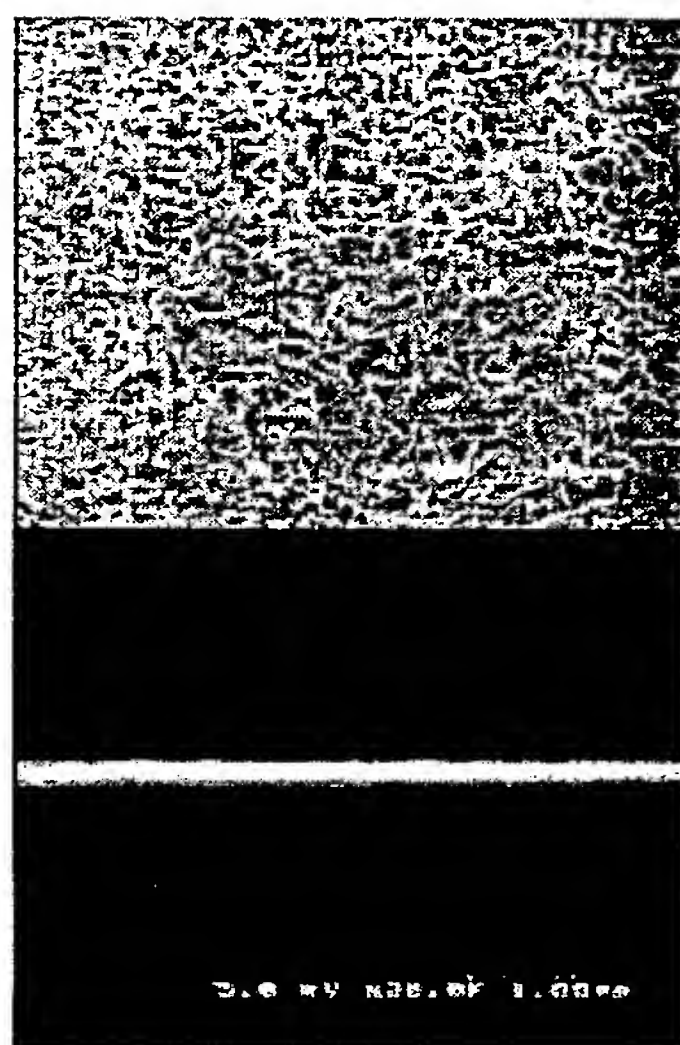


8 h

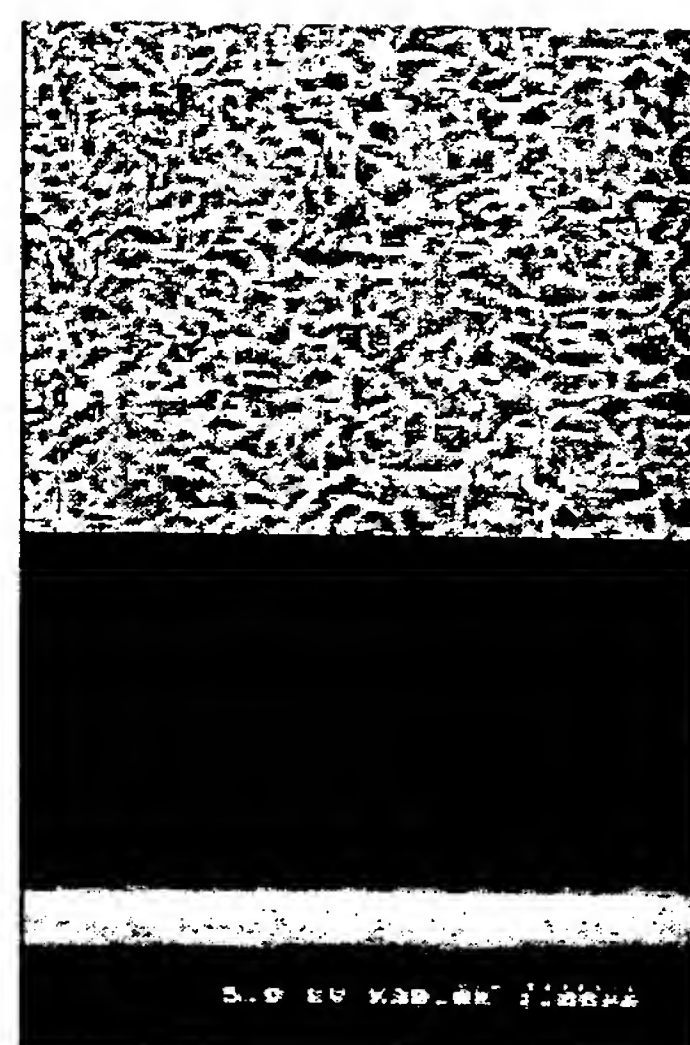
FIG. 37



0.5 h

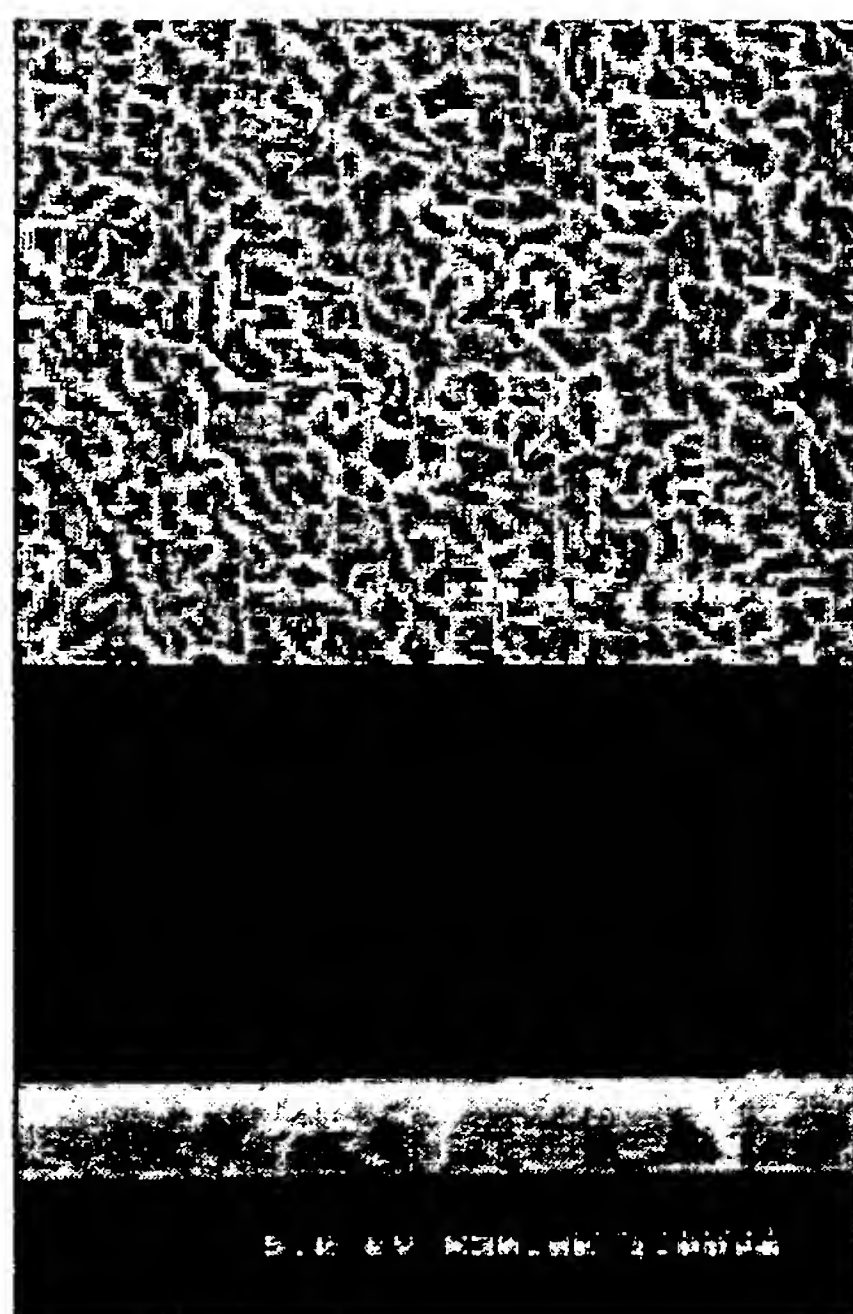
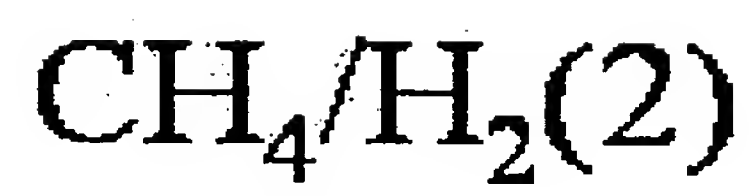


1 h

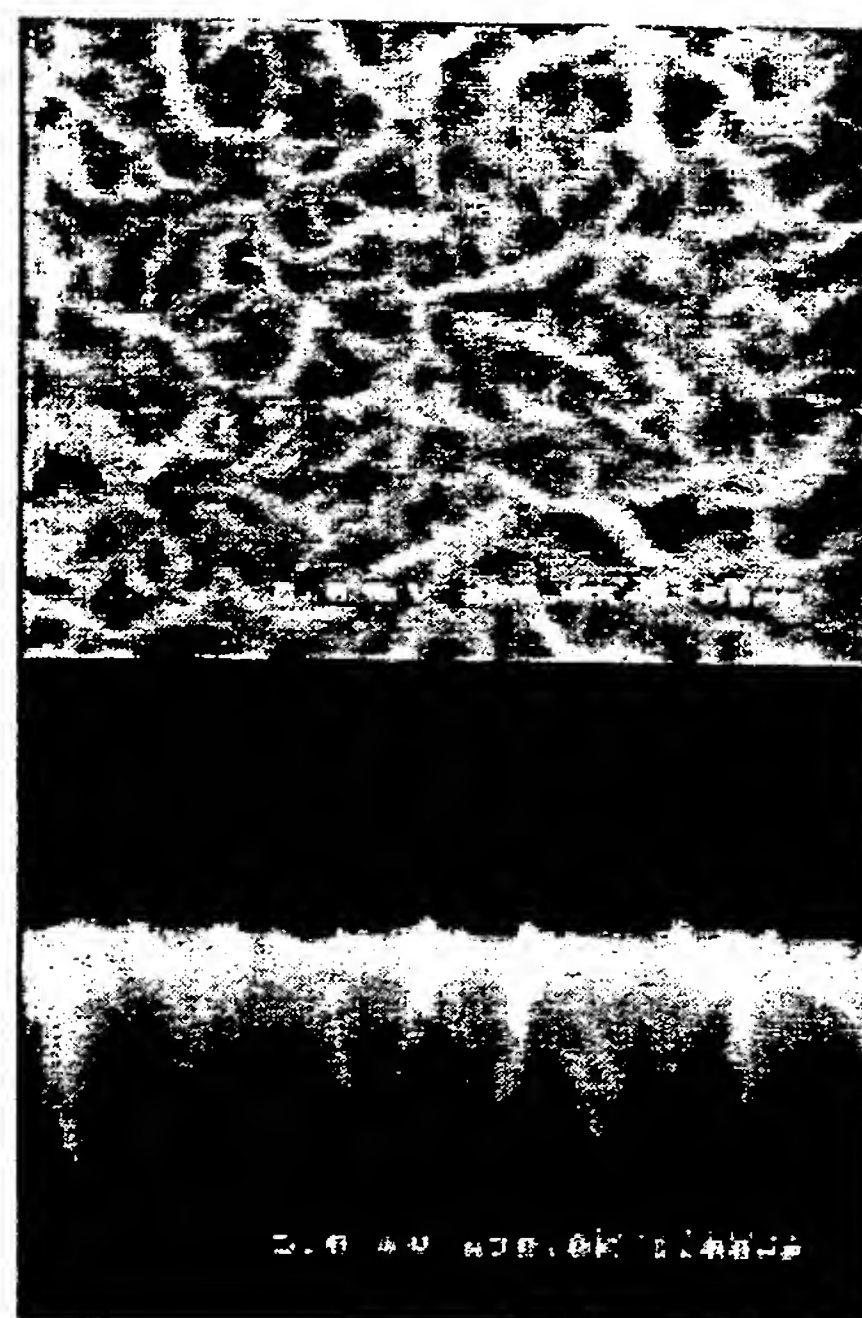


2 h

FIG. 38



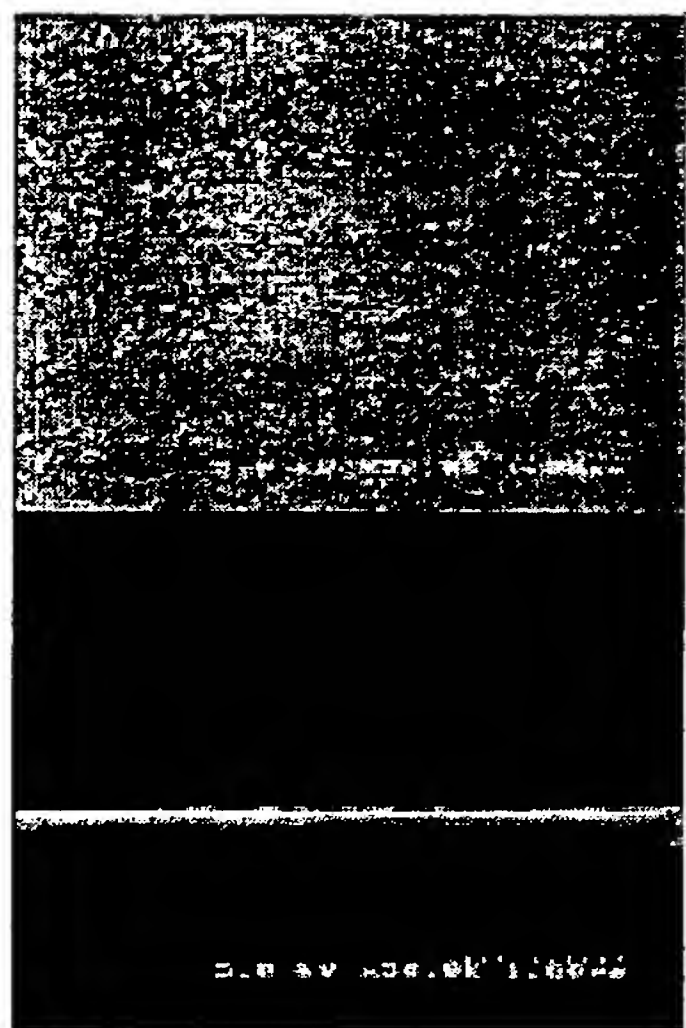
3 h



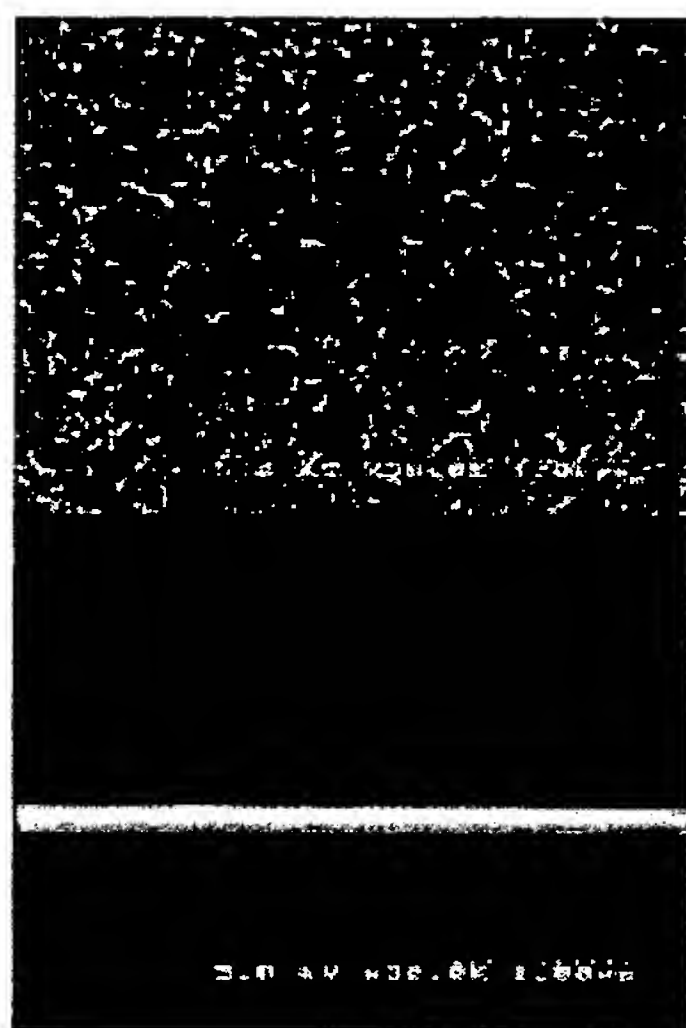
8 h

FIG. 39

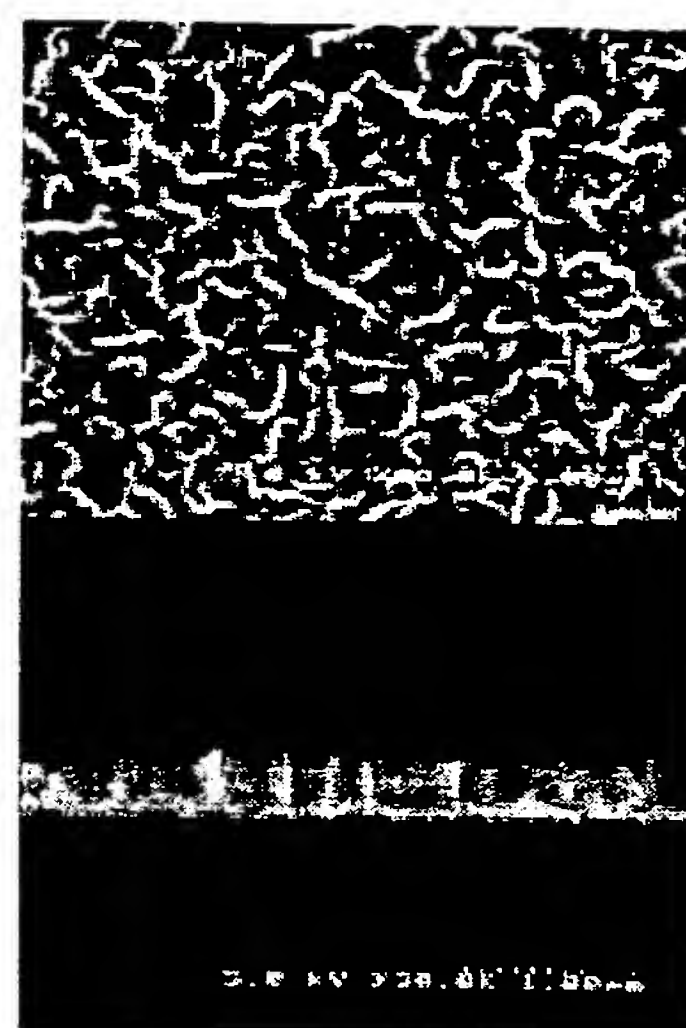
$\text{CF}_4/\text{H}_2(1)$



0.5 h



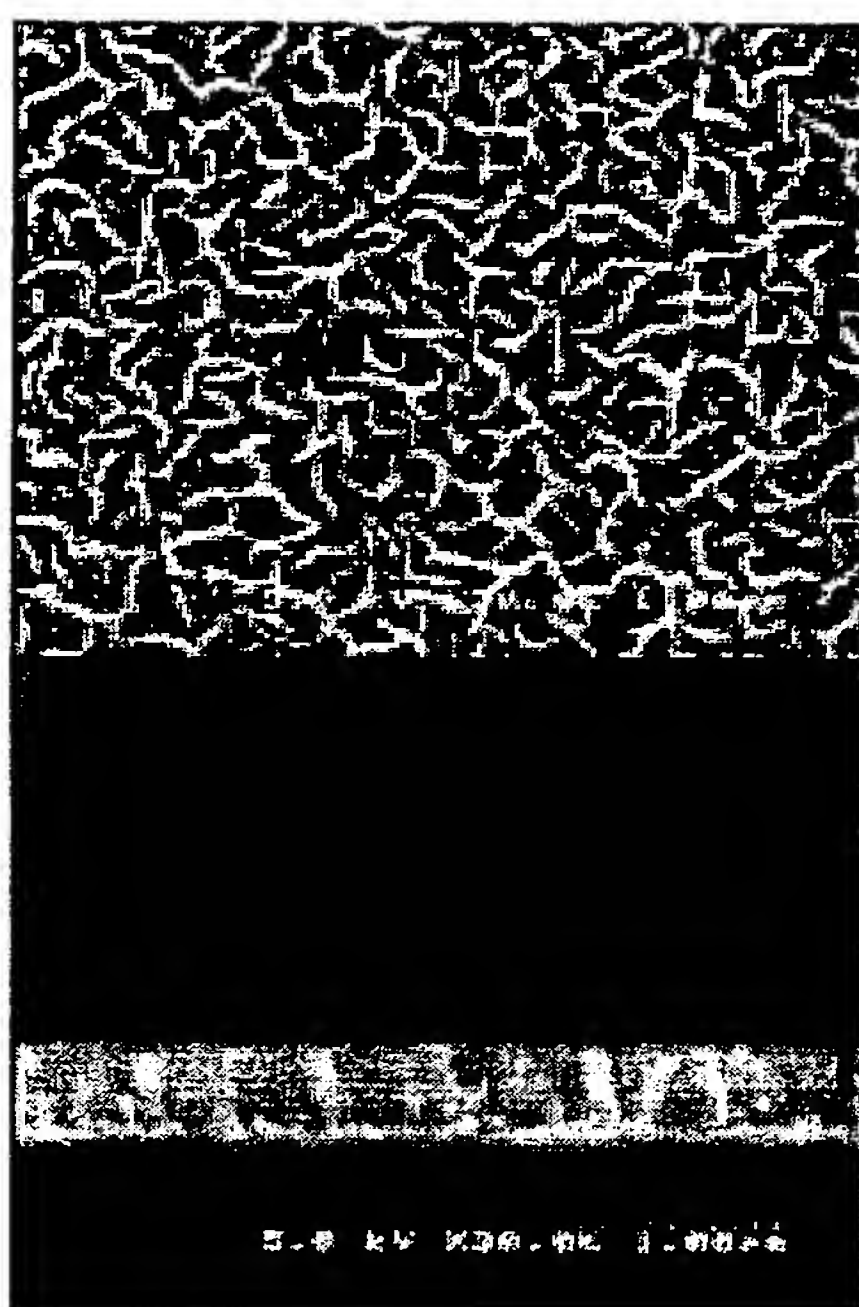
1 h



2 h

FIG. 40

$\text{CF}_4/\text{H}_2(2)$

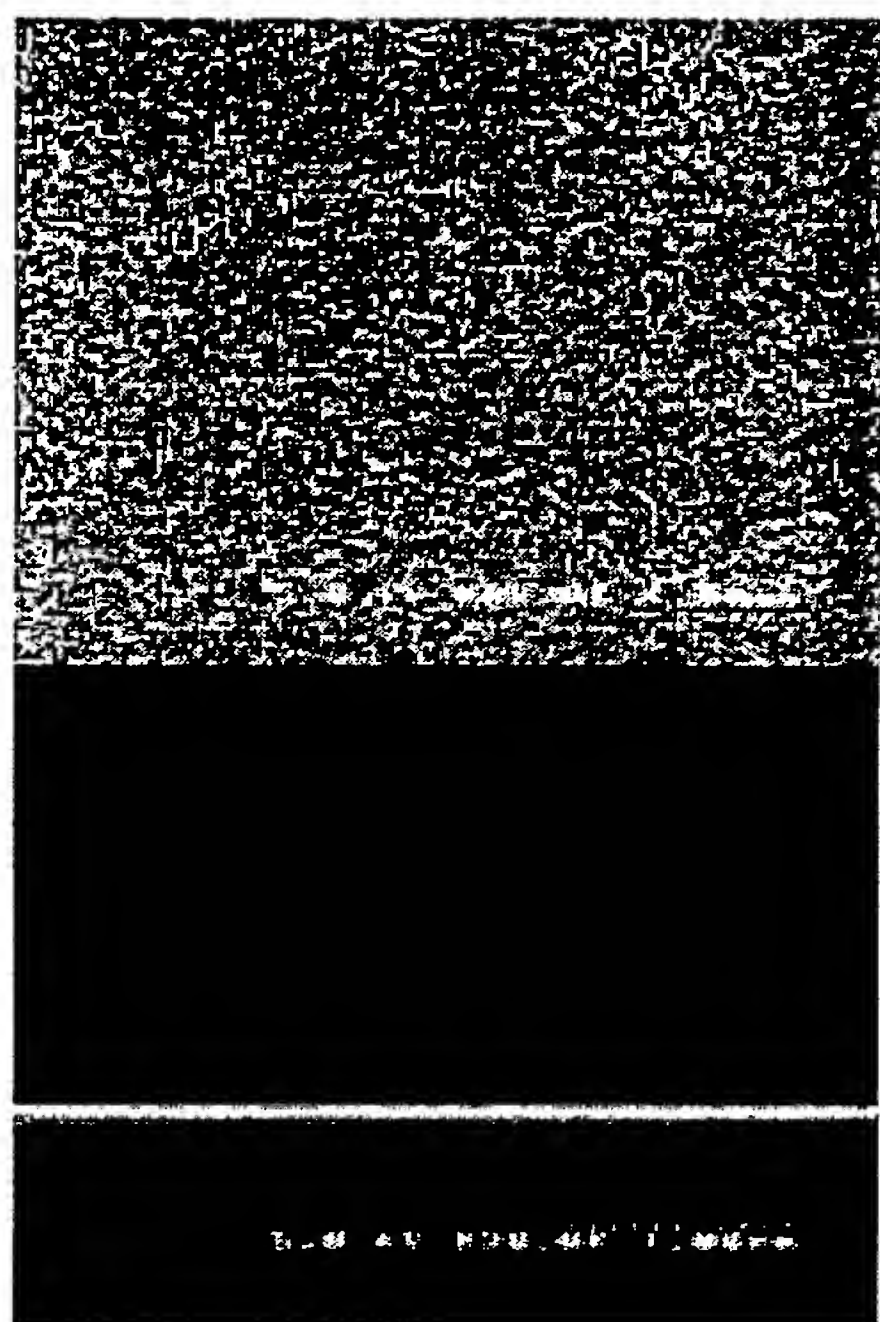
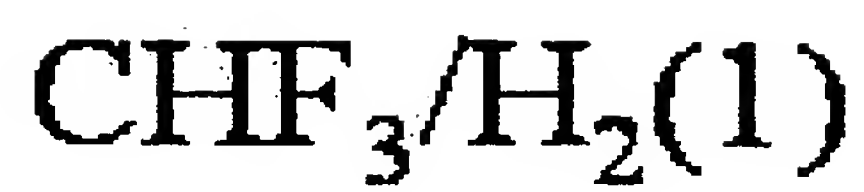


3 h

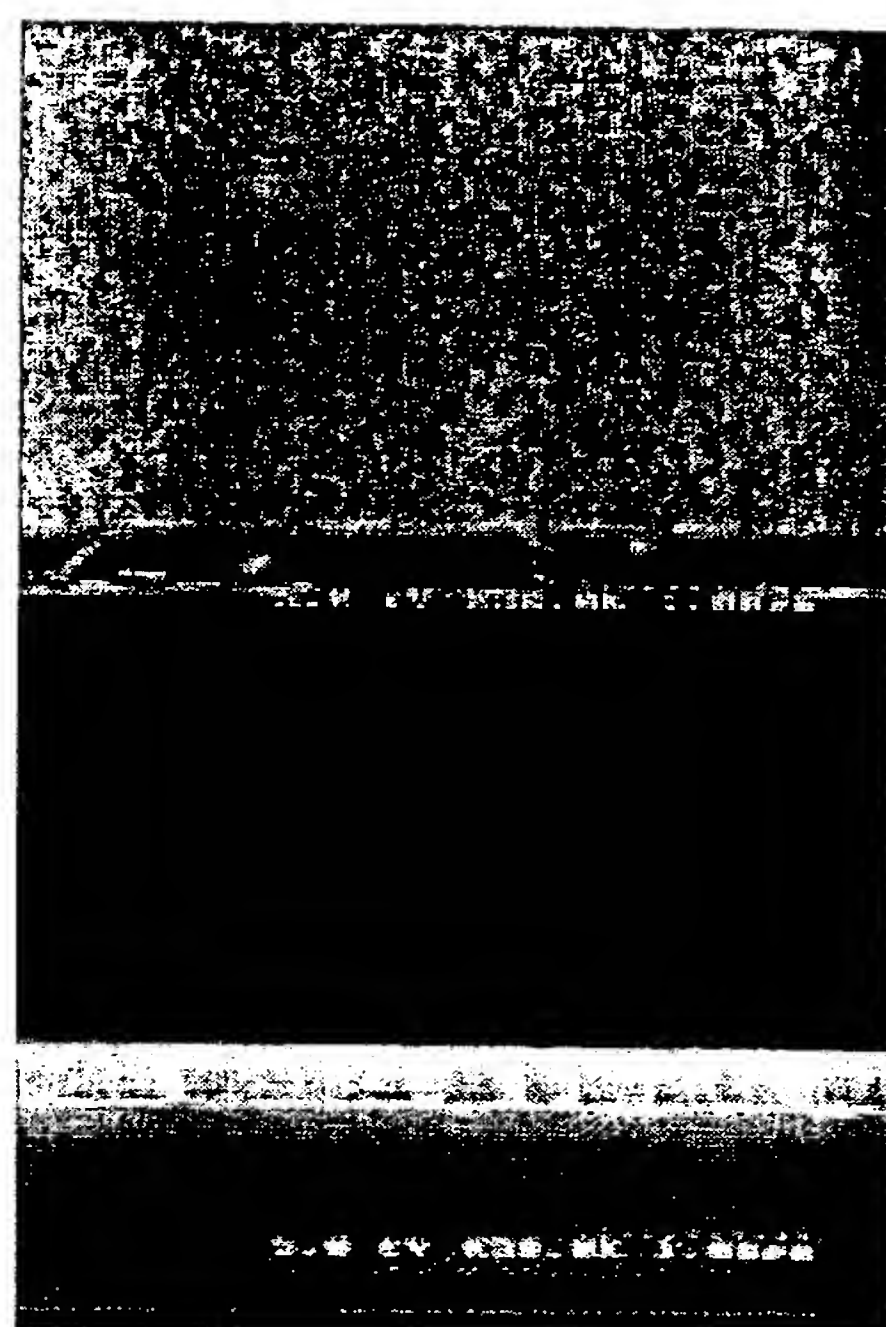


8 h

FIG. 41

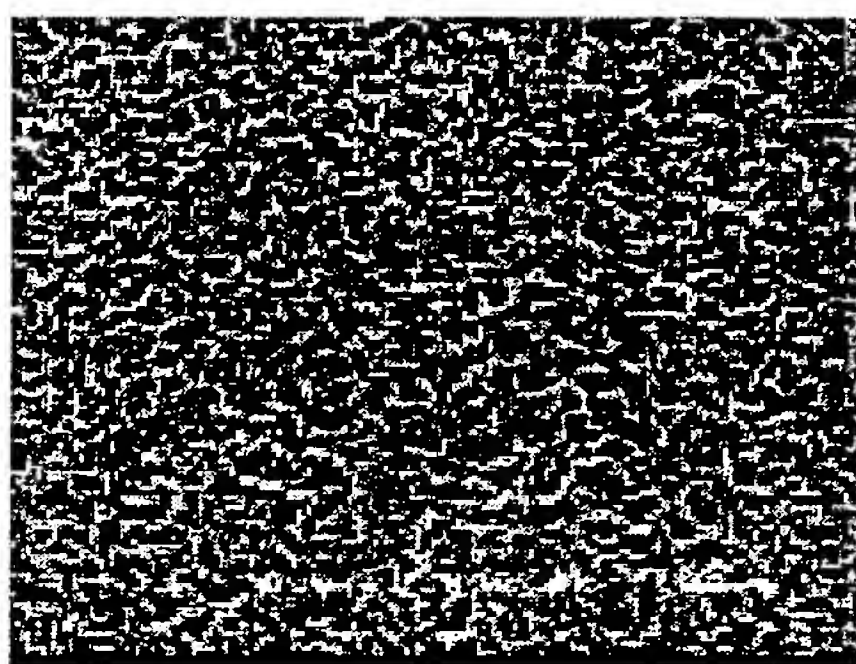
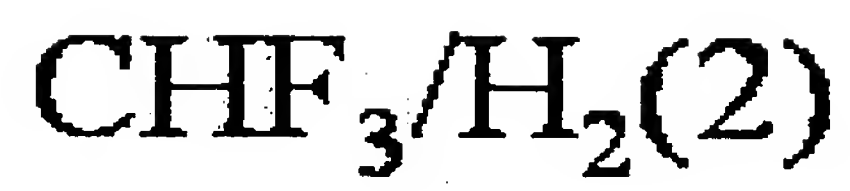


1 h

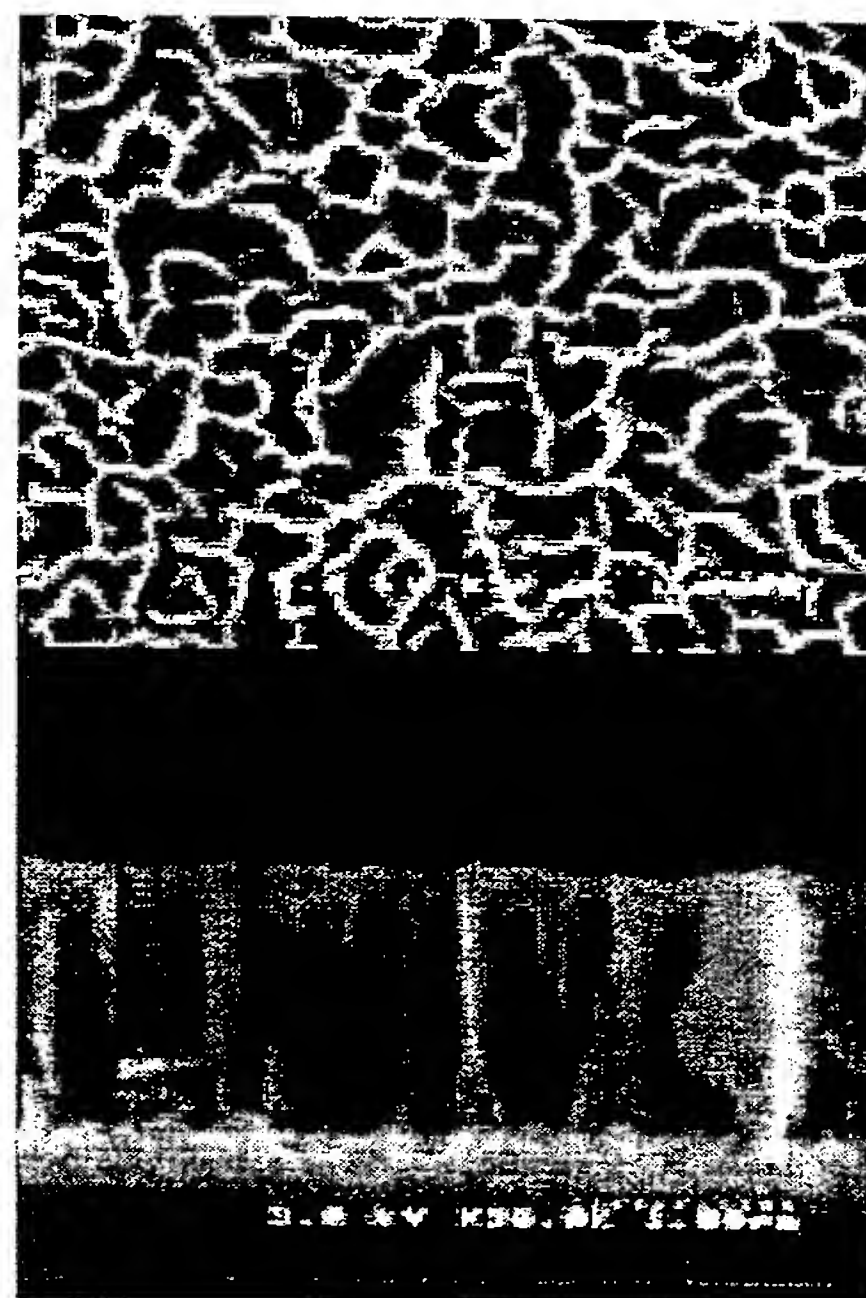


2 h

FIG. 42



3 h



8 h

FIG. 43

DIFFERENCE IN GAS
(HIGH RESOLUTION SEM) - 8h

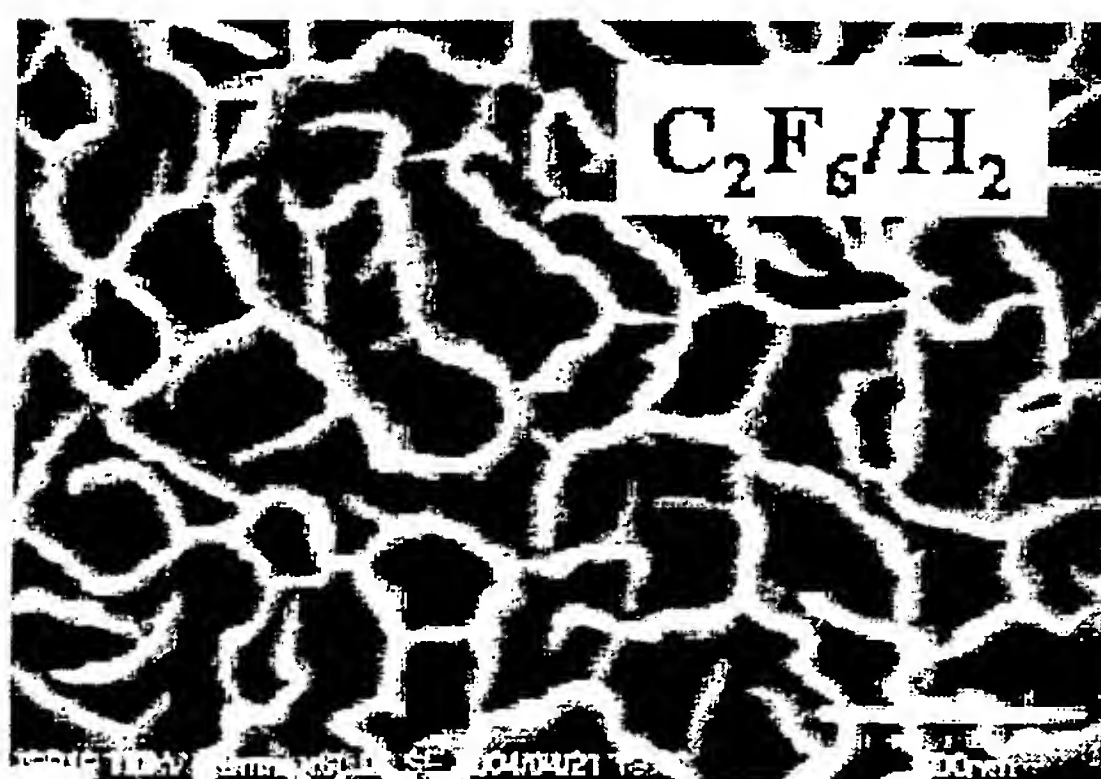
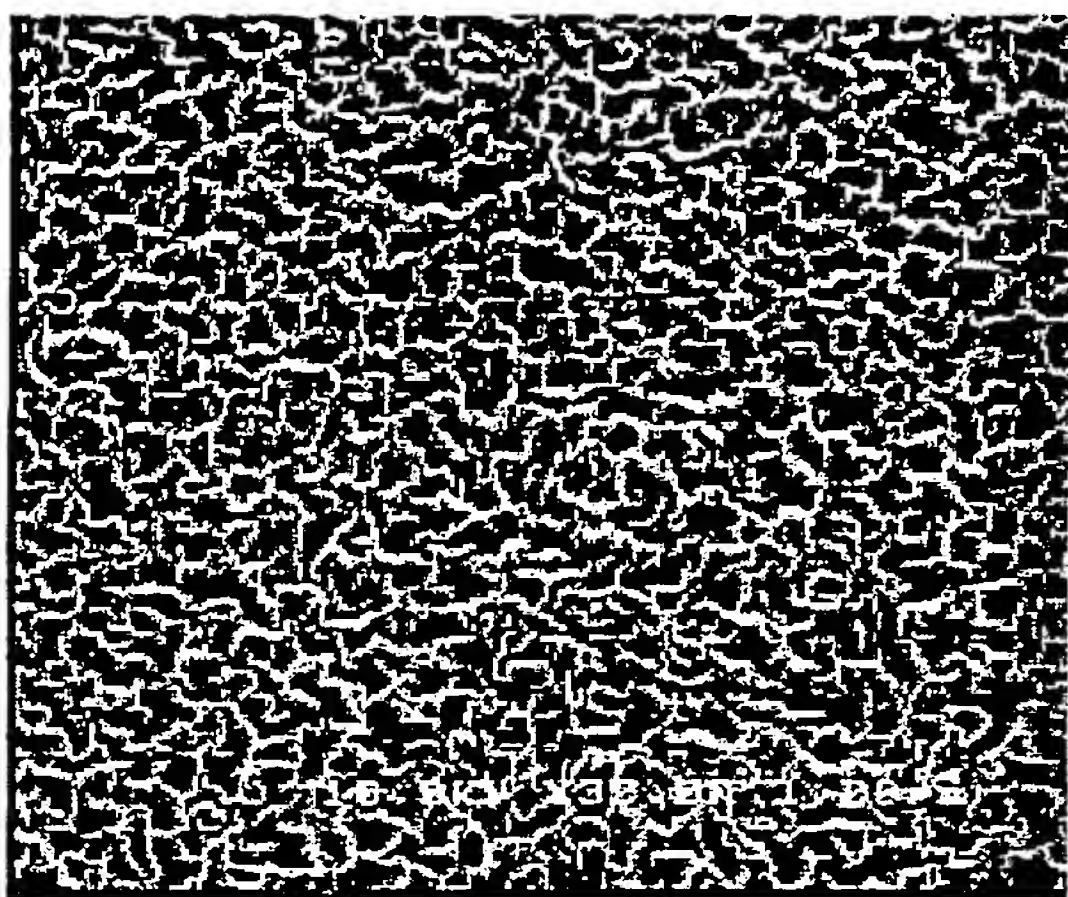
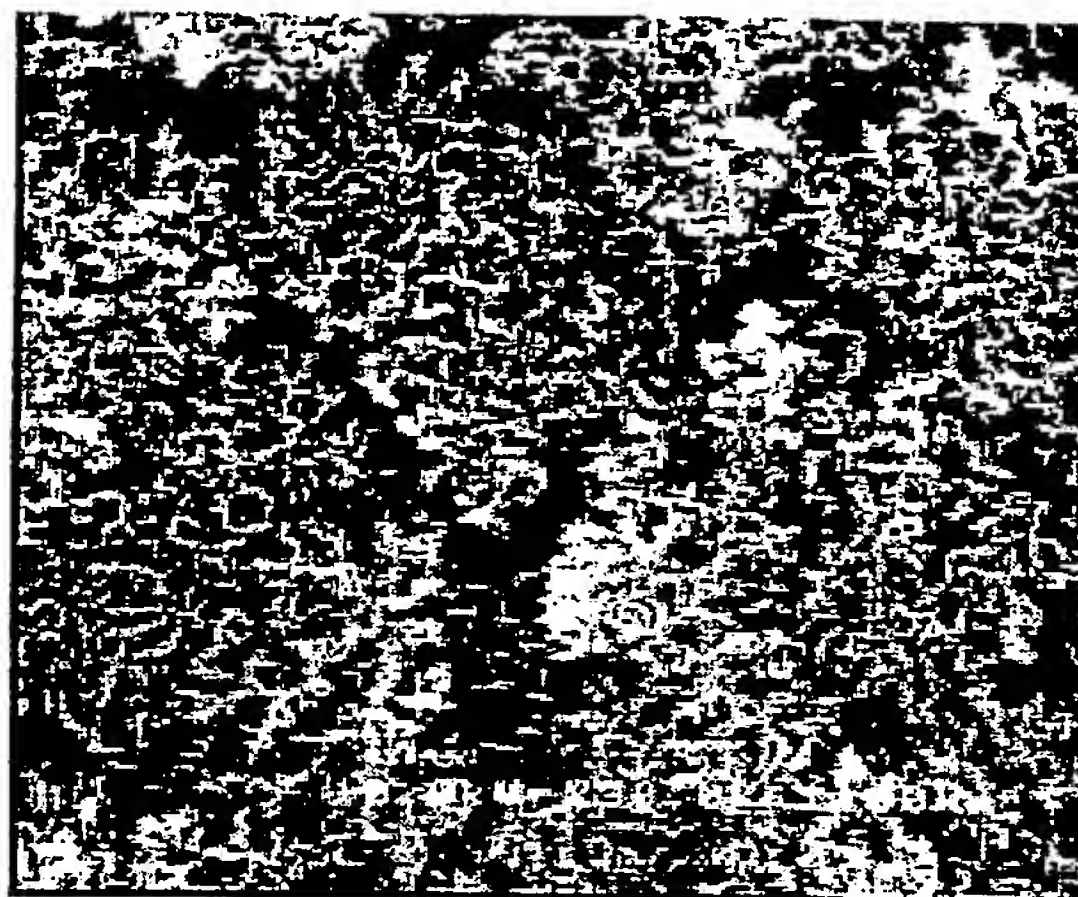


FIG. 44

DIFFERENCE IN SUBSTRATE (1)



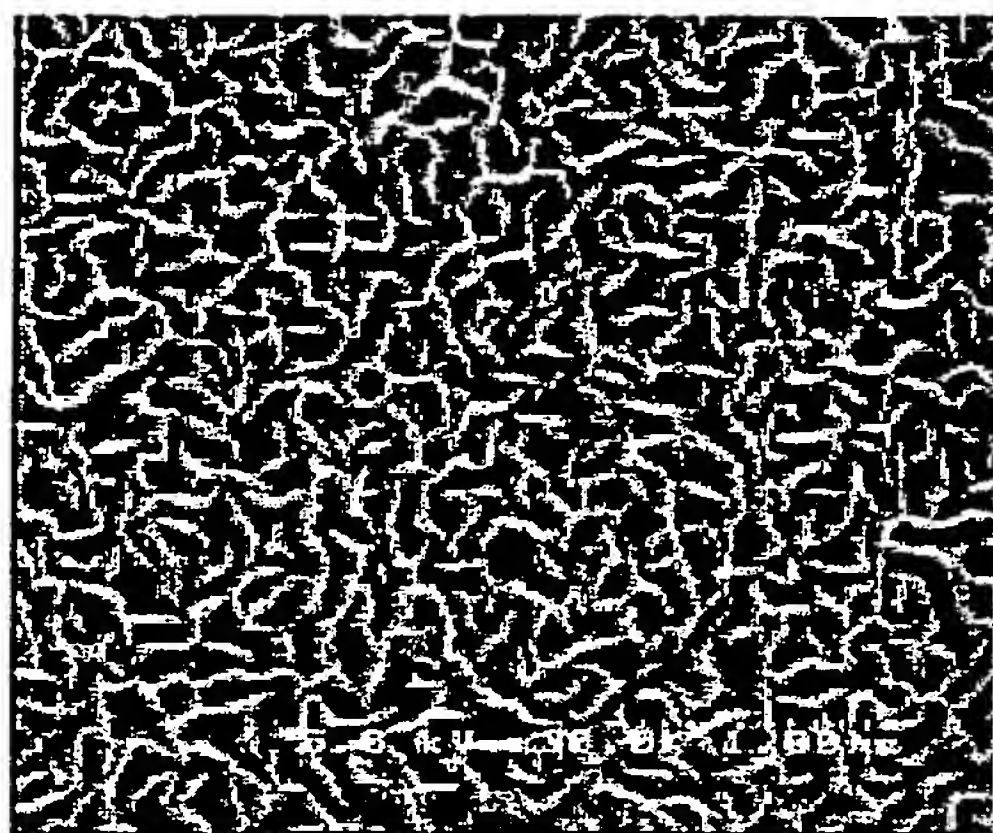
stainless steel



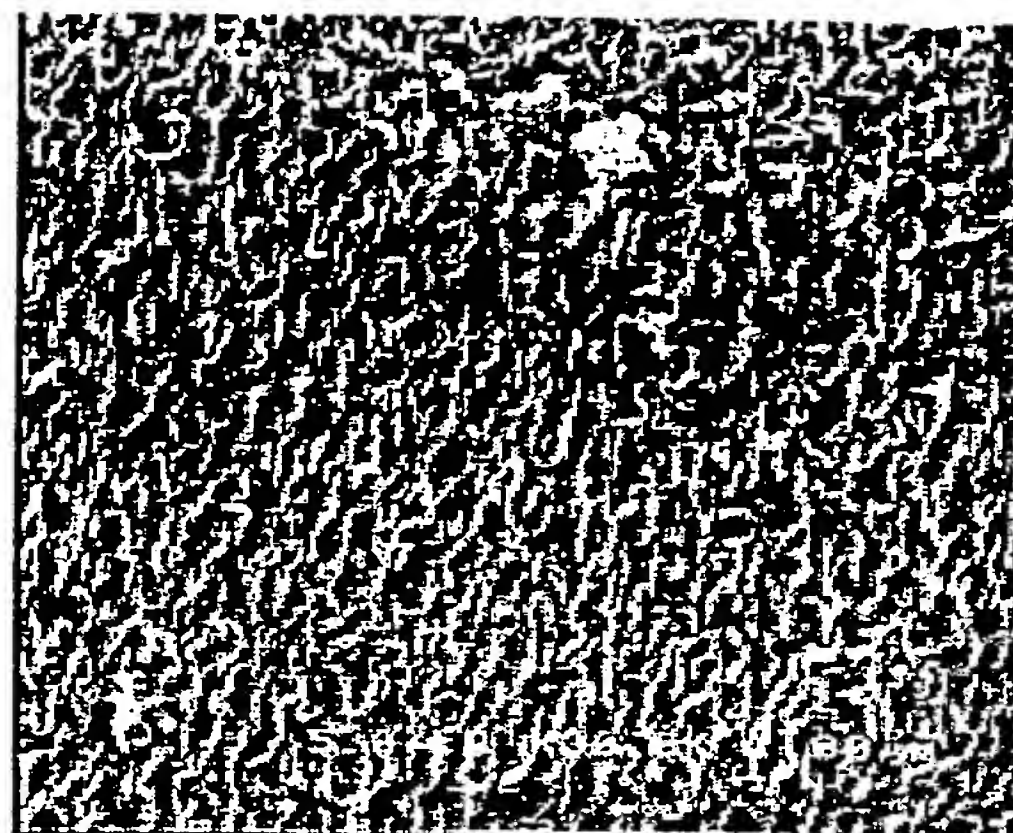
graphite

FIG. 45

DIFFERENCE IN SUBSTRATE (2)



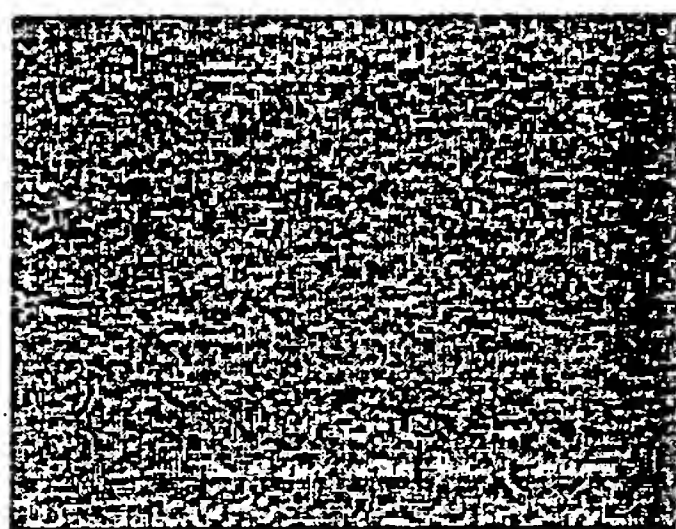
SiO_2



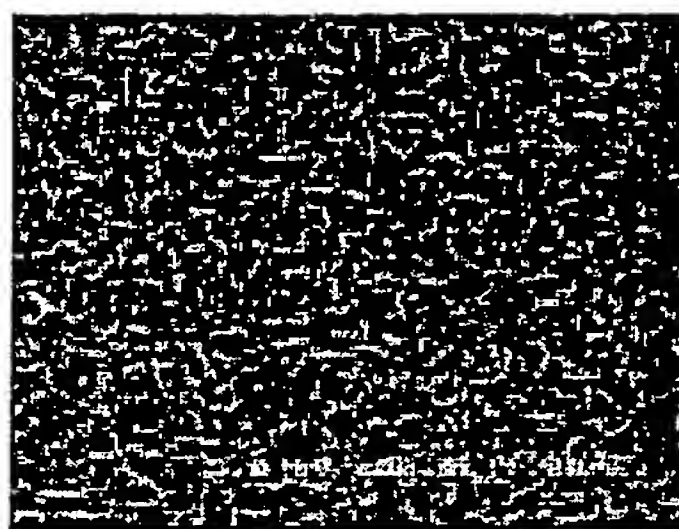
Ni

FIG. 46

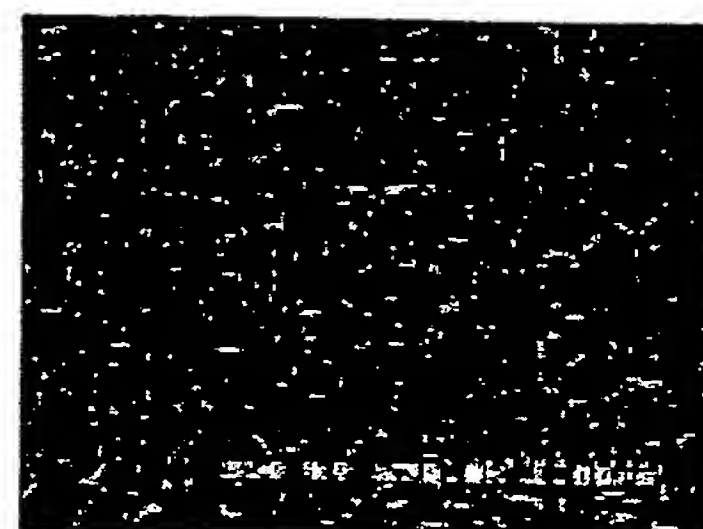
DIFFERENCE IN CCP (C_2F_6)



20 W



50 W



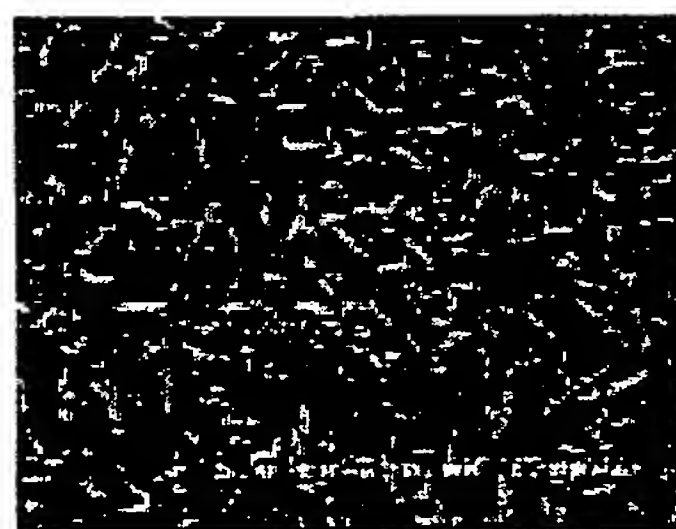
80 W

FIG. 47

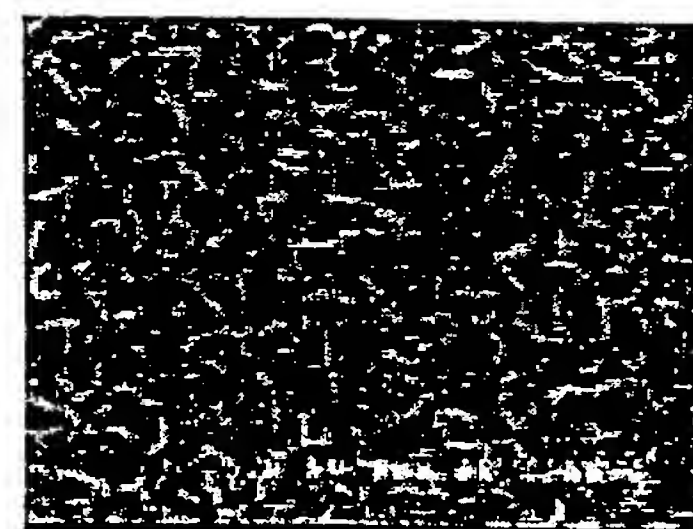
DIFFERENCE IN CCP (CH_4)



20 W



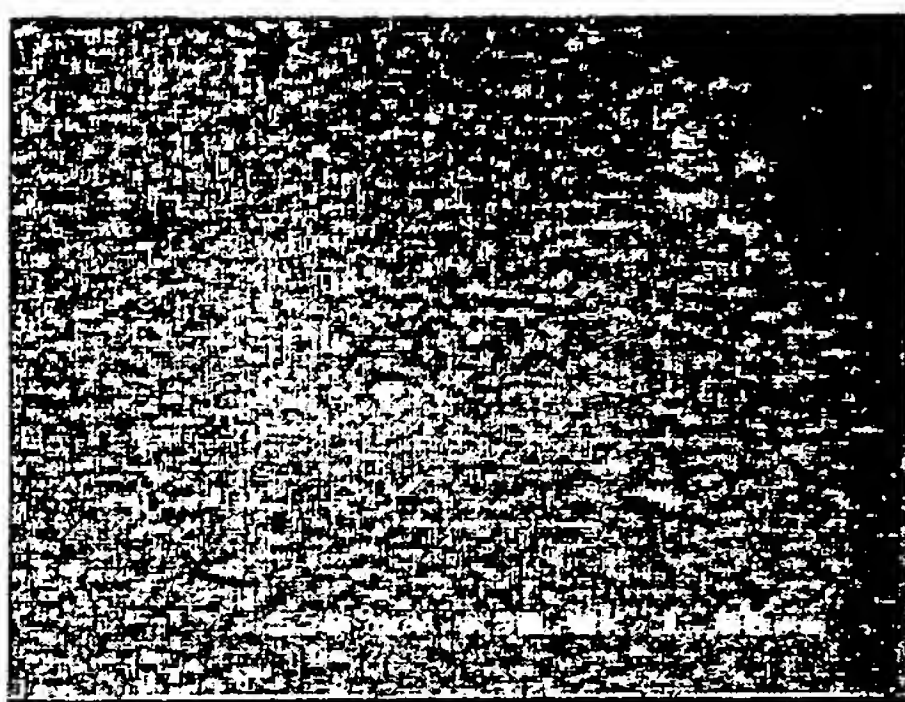
50 W



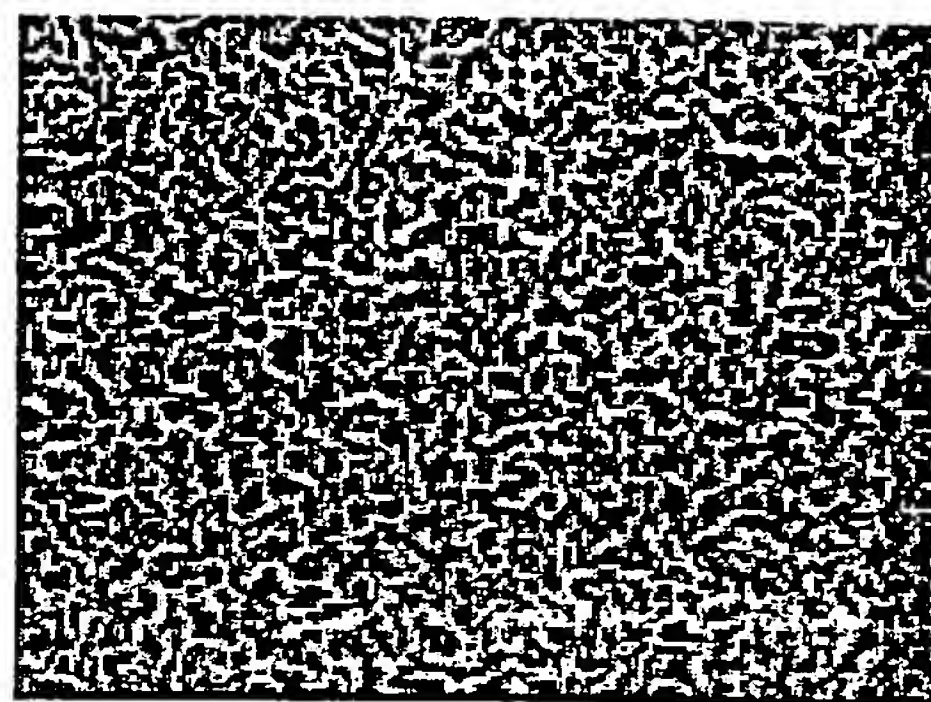
80 W

FIG. 48

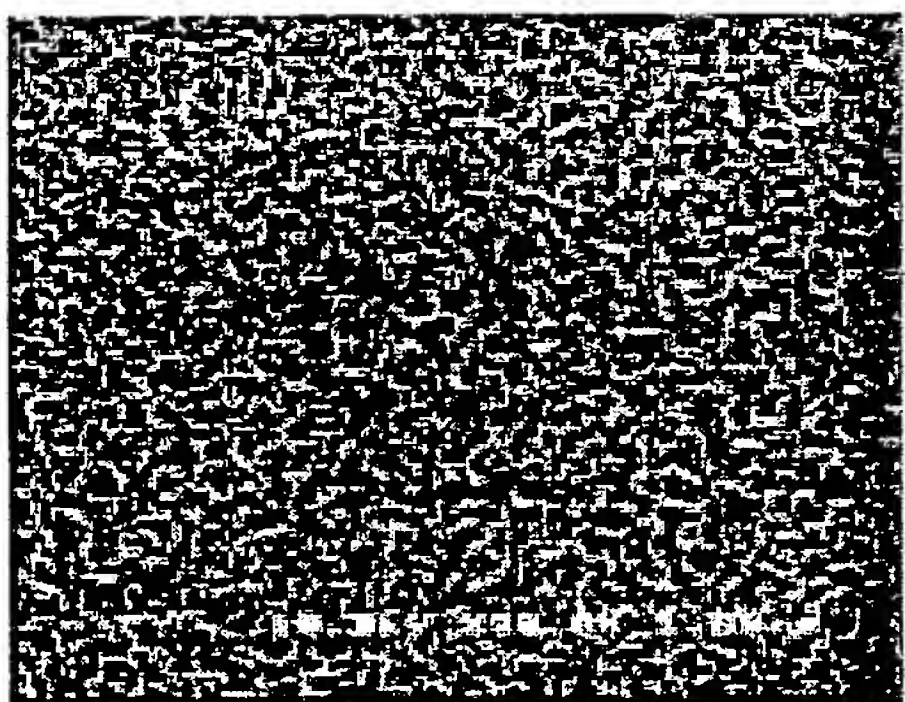
DIFFERENCE IN ICP (C_2F_6)



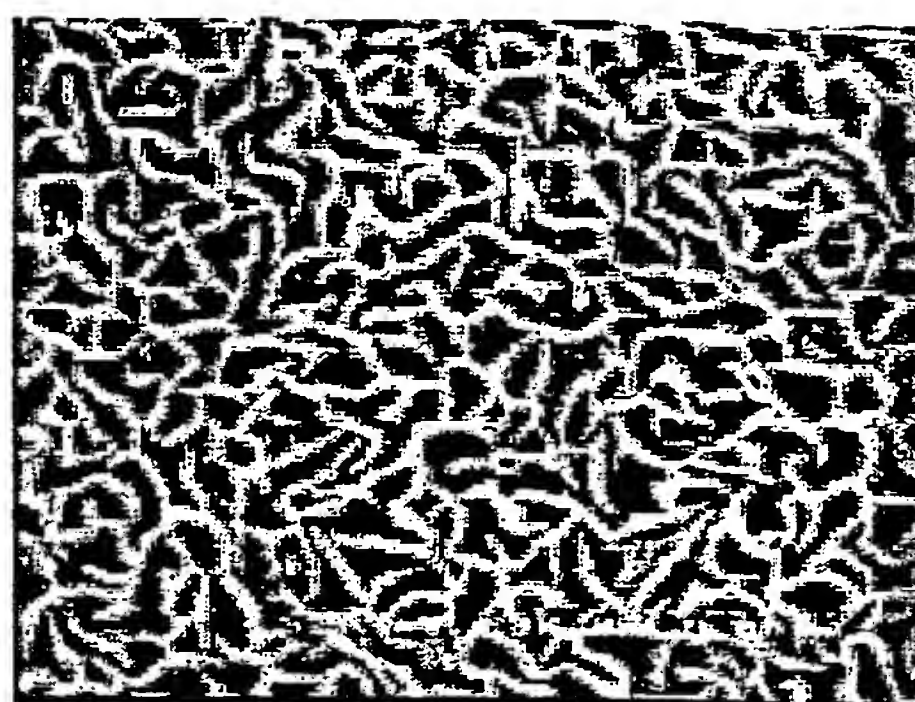
0 W



100 W



200 W



400 W

FIG. 49

USE OF TWO DIFFERENT GASES (EACH USED
FOR HALF OF A GROWTH TIME OF THREE HOURS)

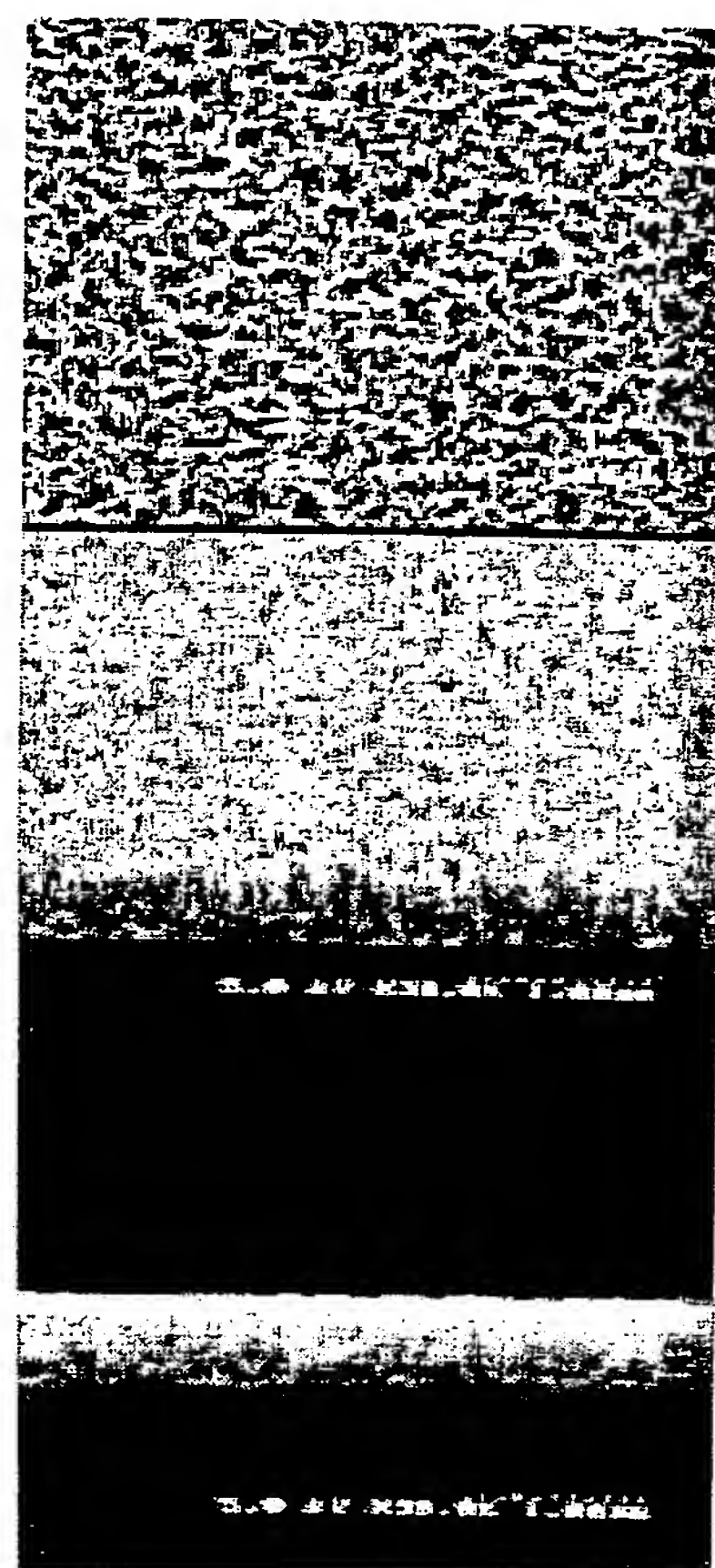
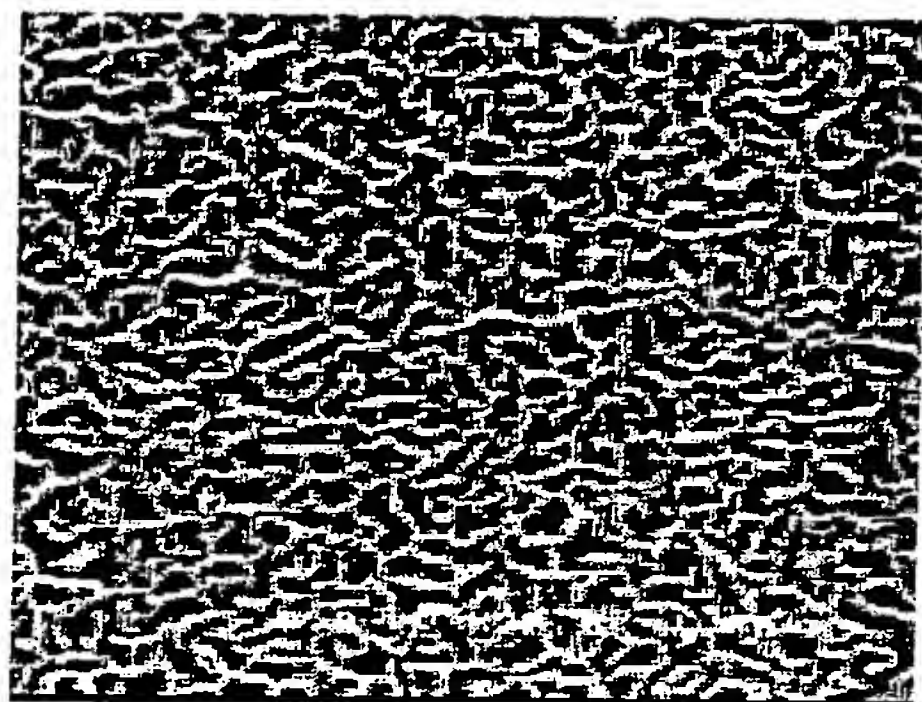
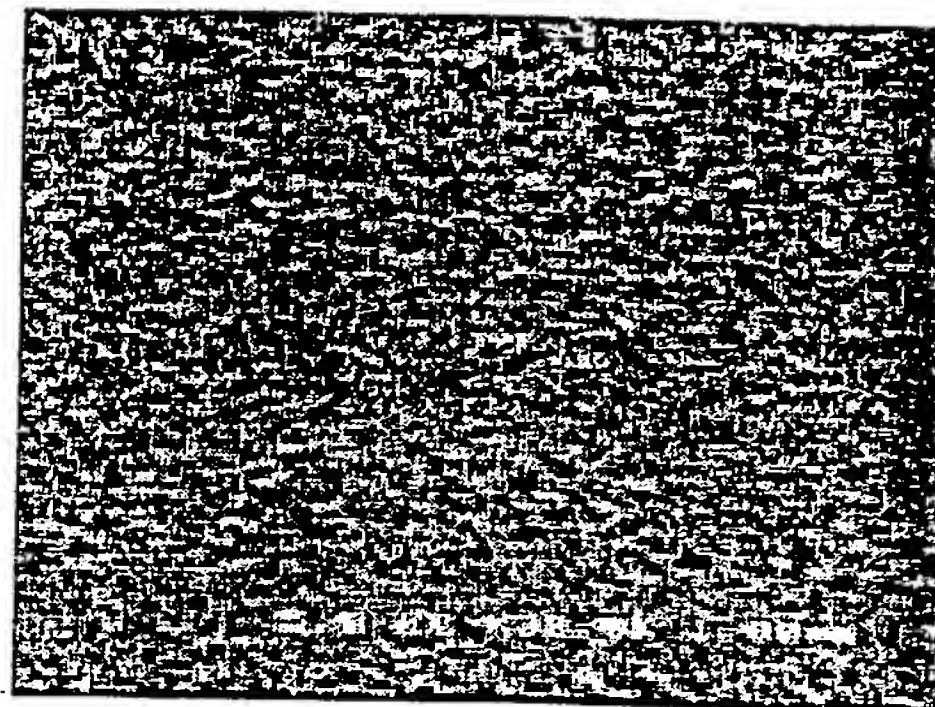


FIG. 50

DIFFERENCE IN FLOW RATE



$\text{C}_2\text{F}_6/\text{H}_2 = 7.5/30 \text{ sccm}$



$\text{C}_2\text{F}_6/\text{H}_2 = 24/24 \text{ sccm}$

FIG. 51

ORIENTATION

$C_2F_6/H_2=20/80$

GCP 100W、ICP 400W

Si (100) SUBSTRATE

SUBSTRATE TEMPERATURE OF 600°C

GROWTH TIME OF EIGHT HOURS

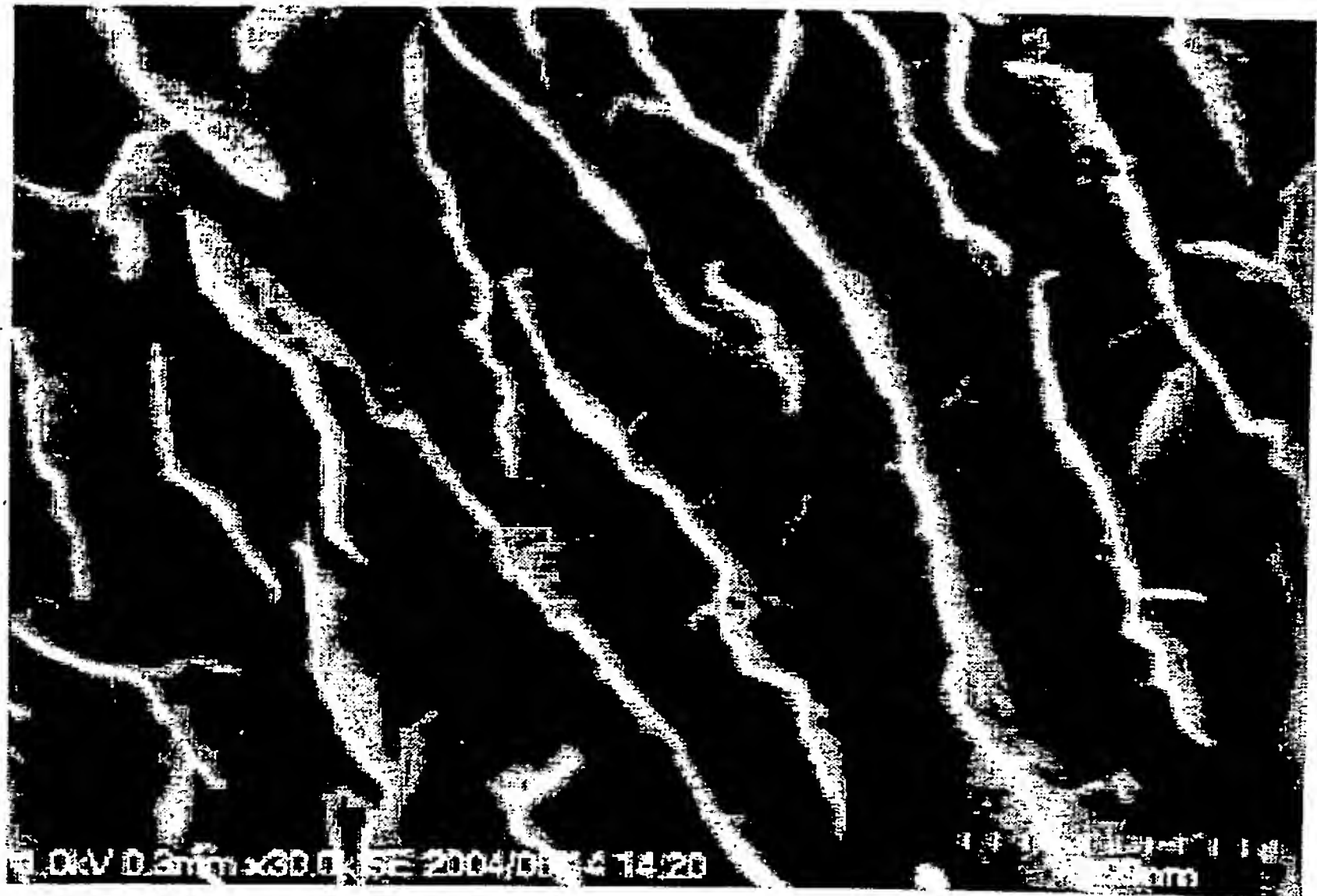


FIG. 52

ORIENTATION

$C_2F_6/H_2=20/80$

CCP 100W, ICP 400W

Si (100) SUBSTRATE

SUBSTRATE TEMPERATURE OF 600°C

GROWTH TIME OF EIGHT HOURS

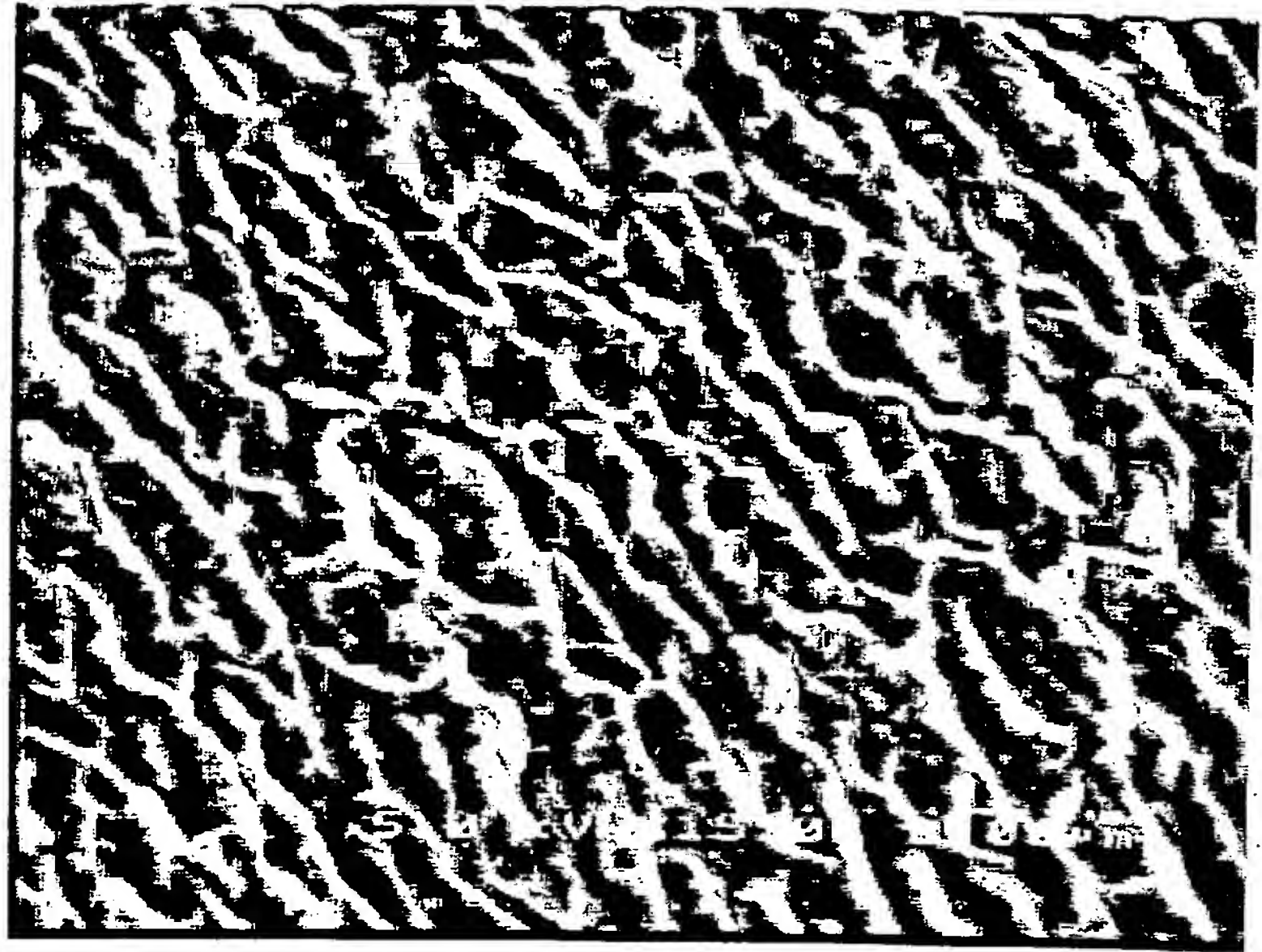


FIG. 53

ORIENTATION

$C_2F_6/H_2=20/80$

GCP 100W, ICP 400W

Si (100) SUBSTRATE

SUBSTRATE TEMPERATURE OF 600°C

GROWTH TIME OF EIGHT HOURS

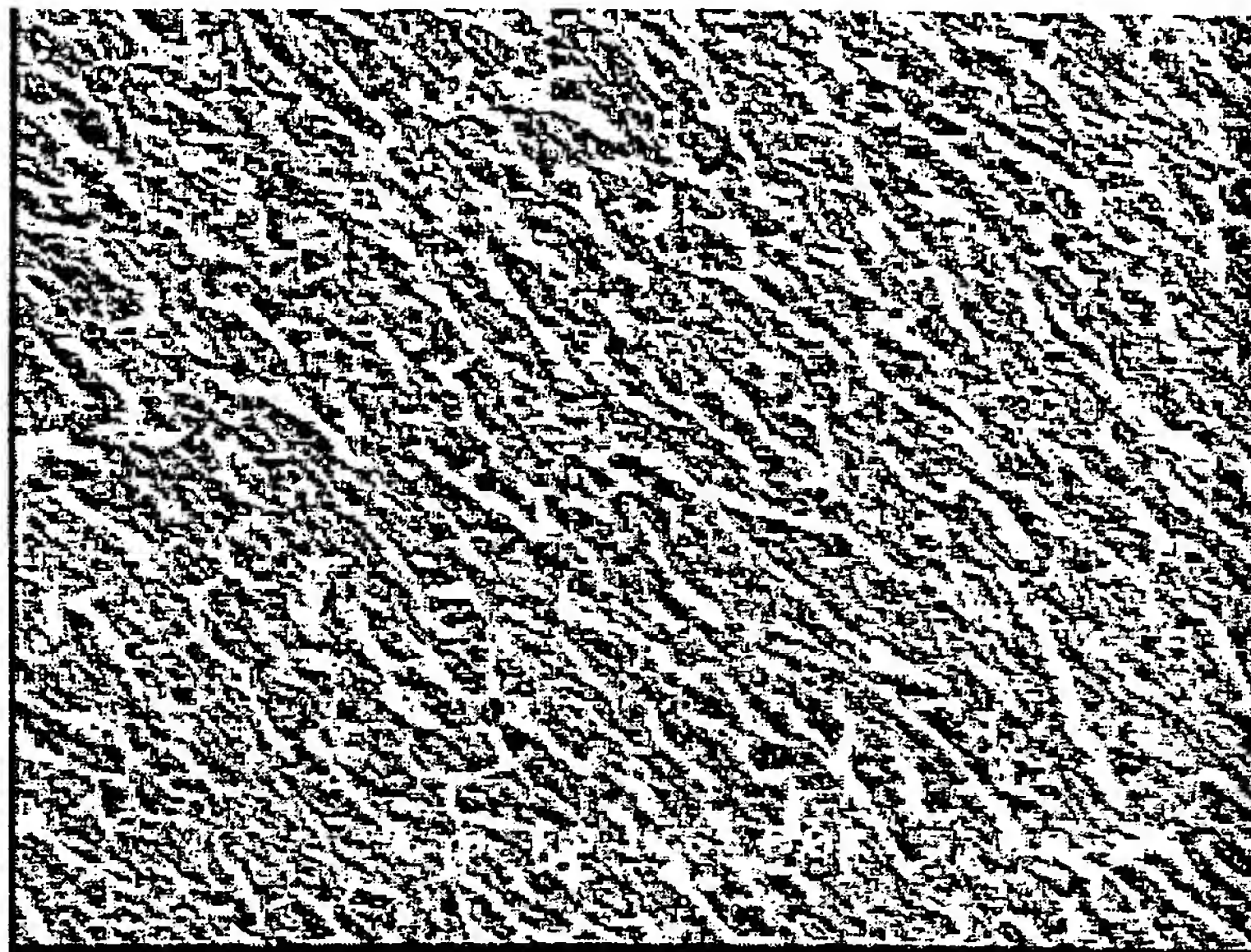
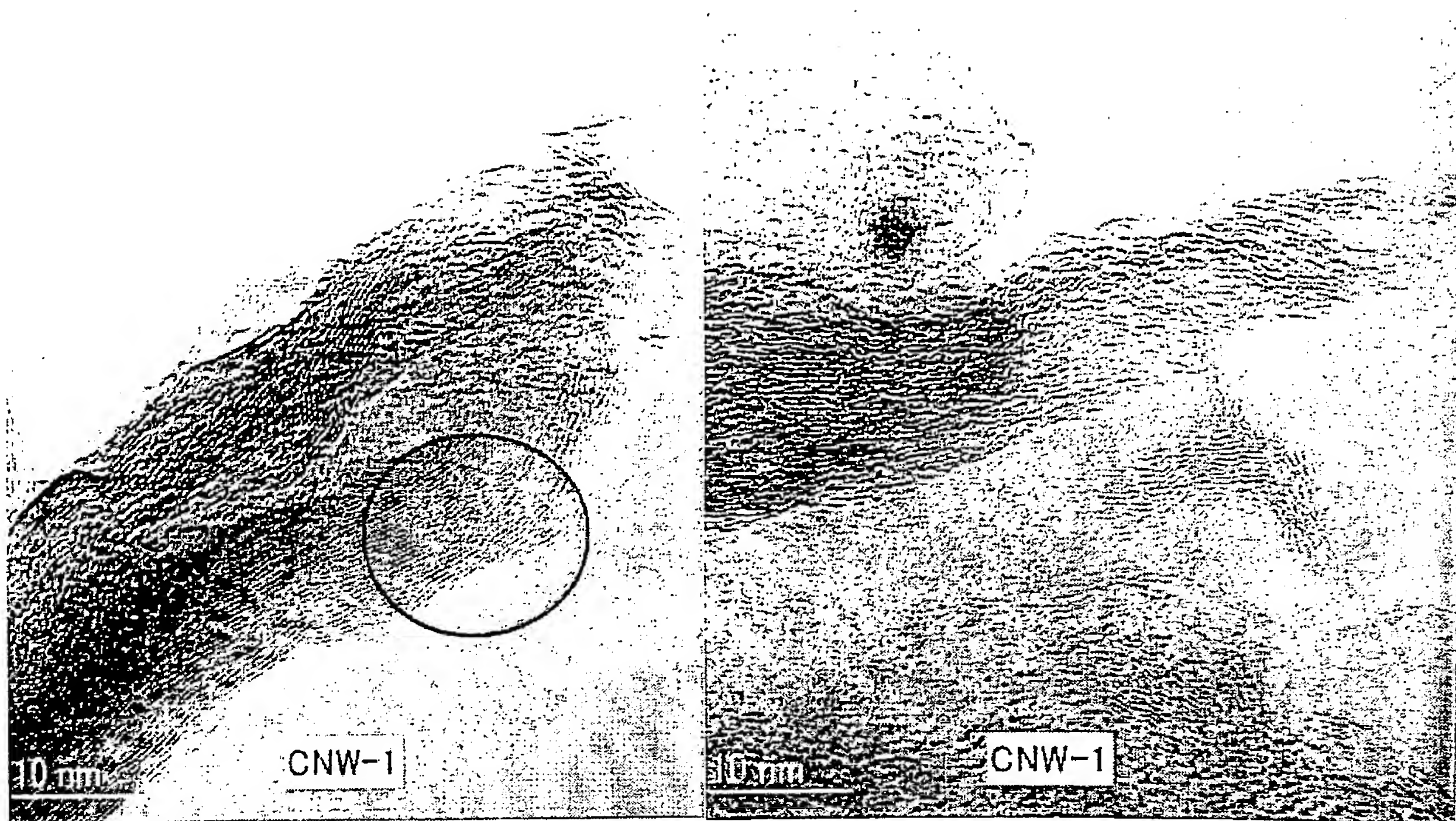


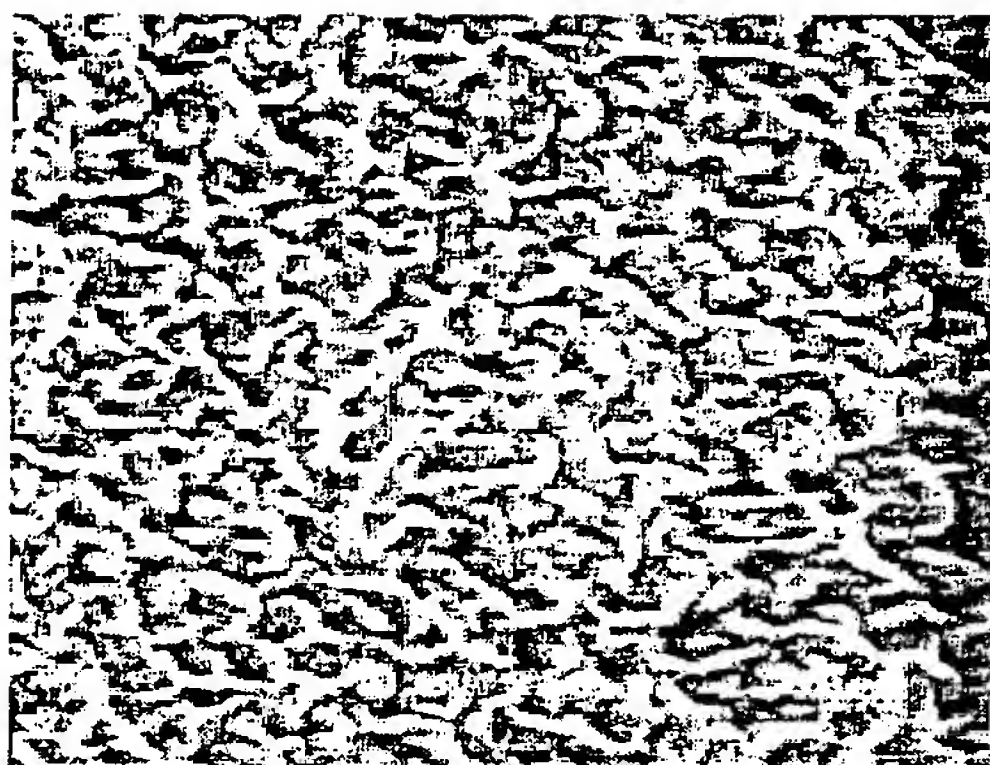
FIG. 54



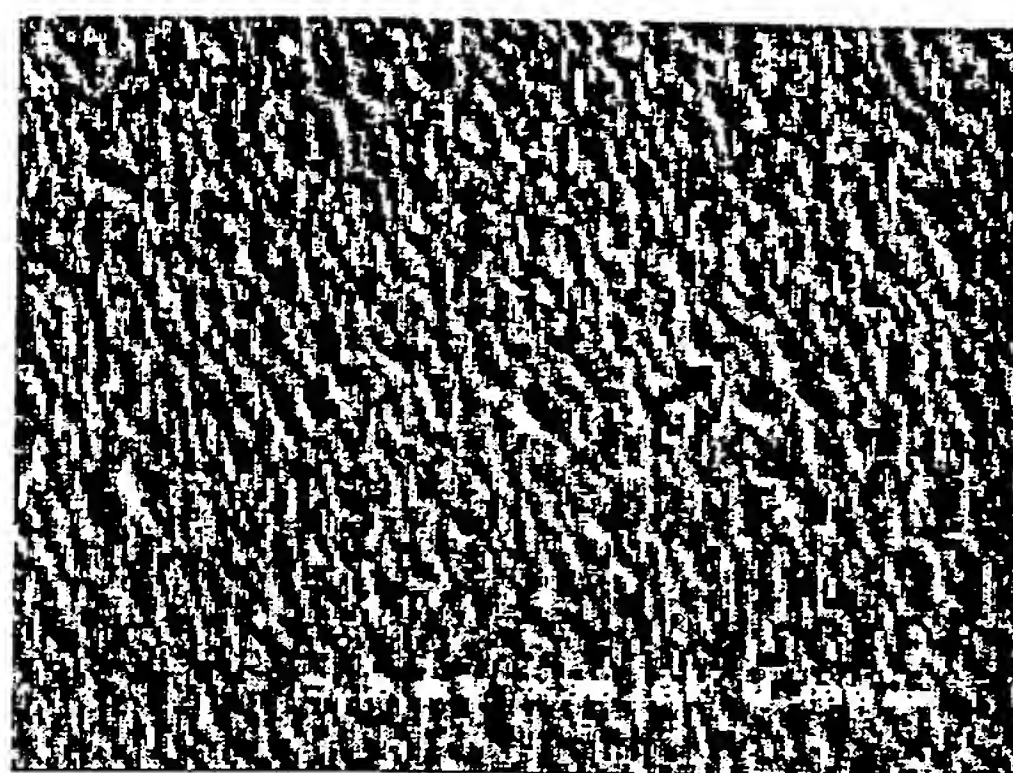
MAGNIFICATION OF THREE HUNDRED THOUSAND

FIG. 55

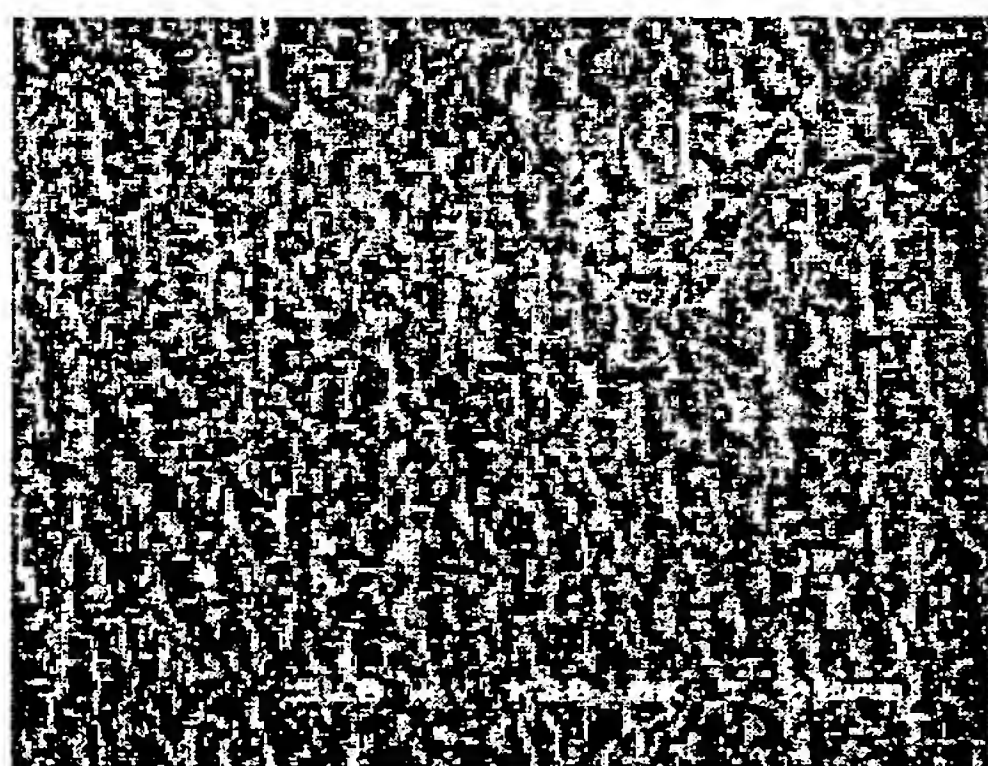
0825



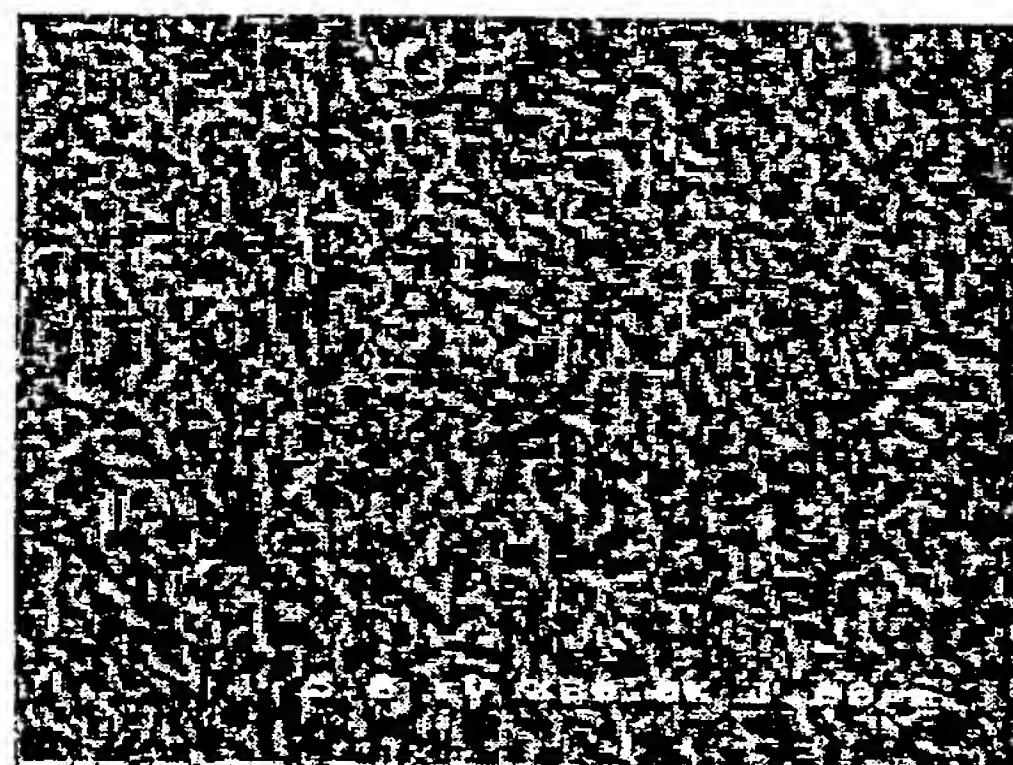
10°



60°



90° ICP SIDE



90° OPPOSED TO
ICP SIDE

FIG. 56A

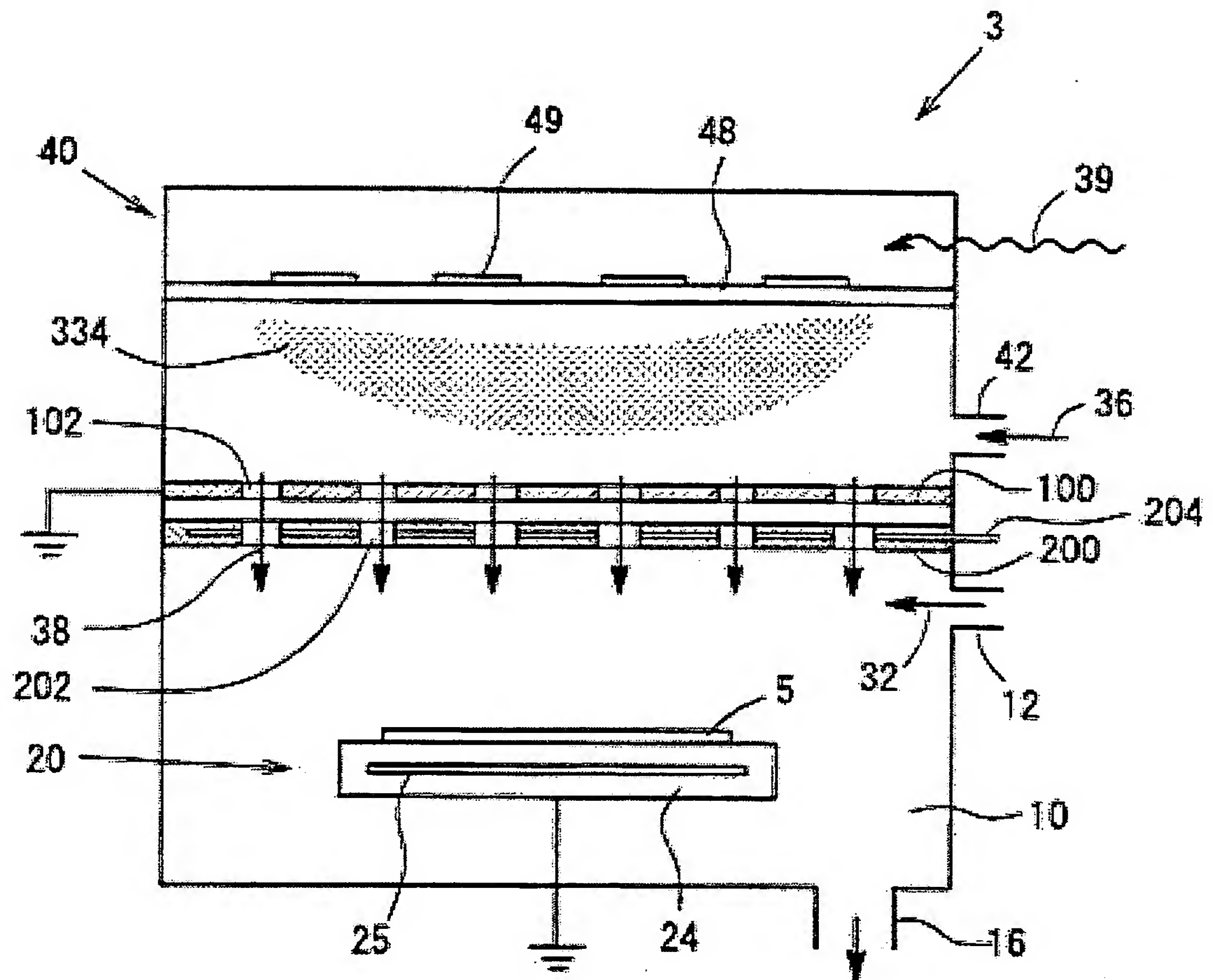


FIG. 56B

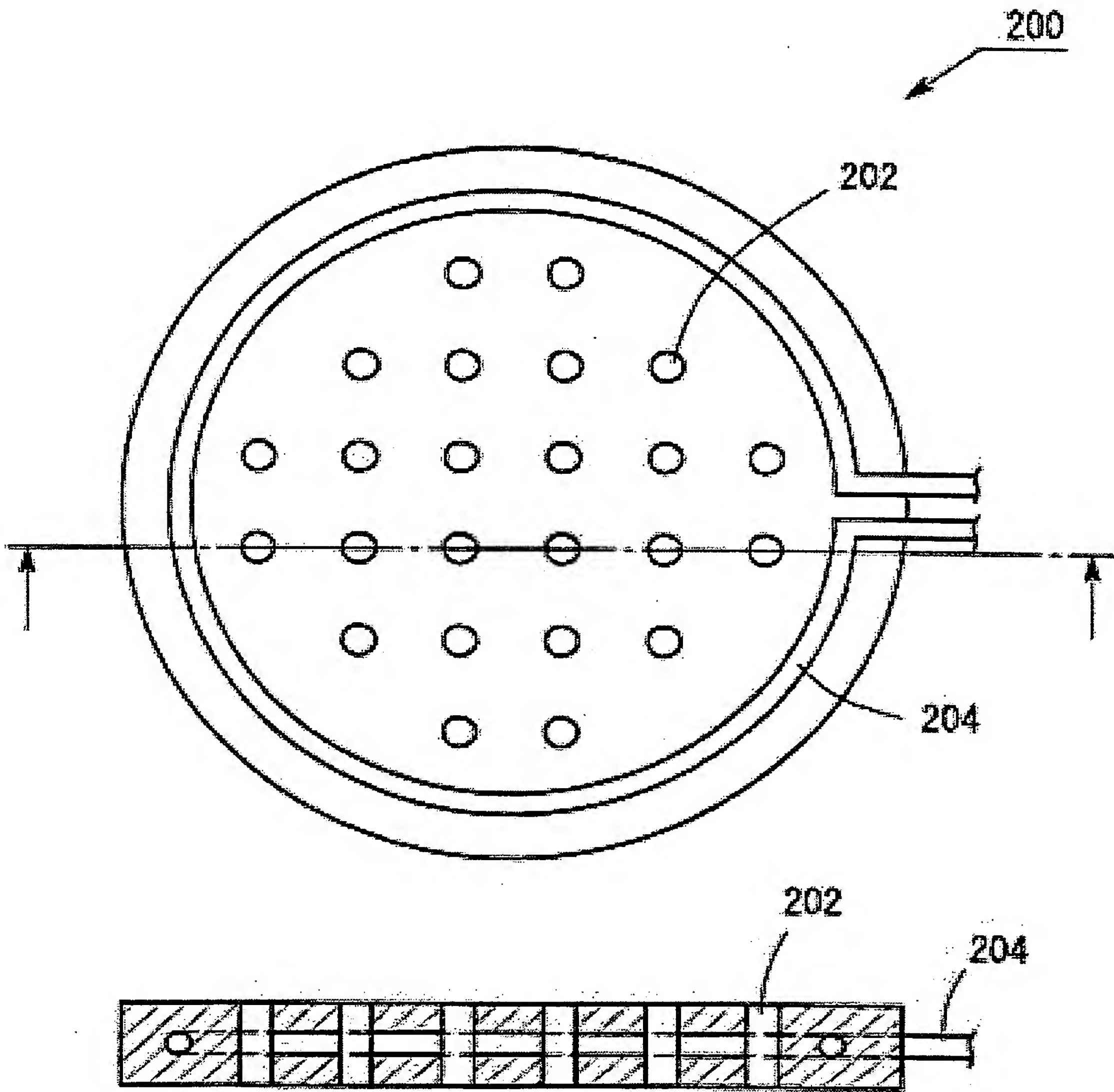


FIG. 57

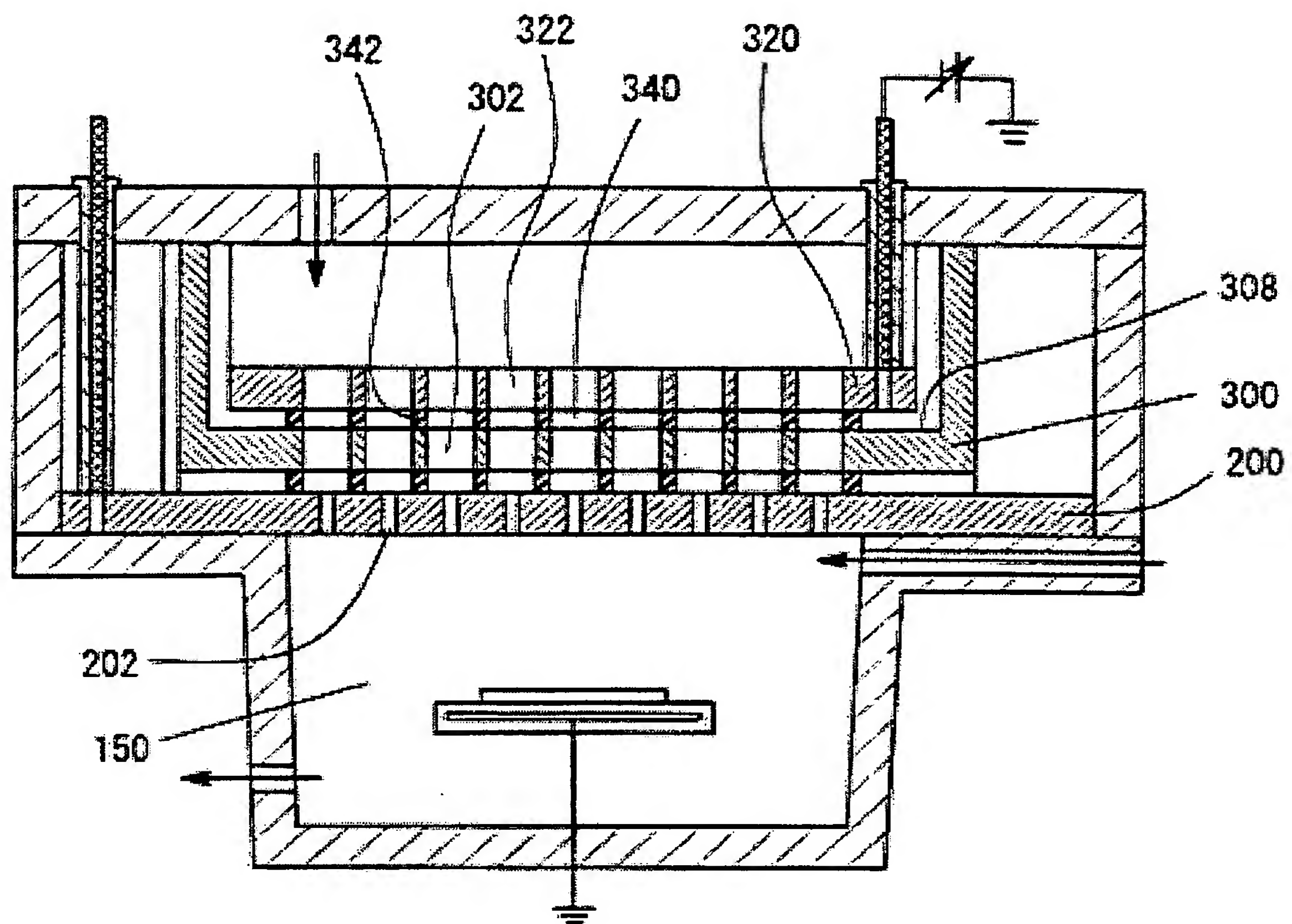
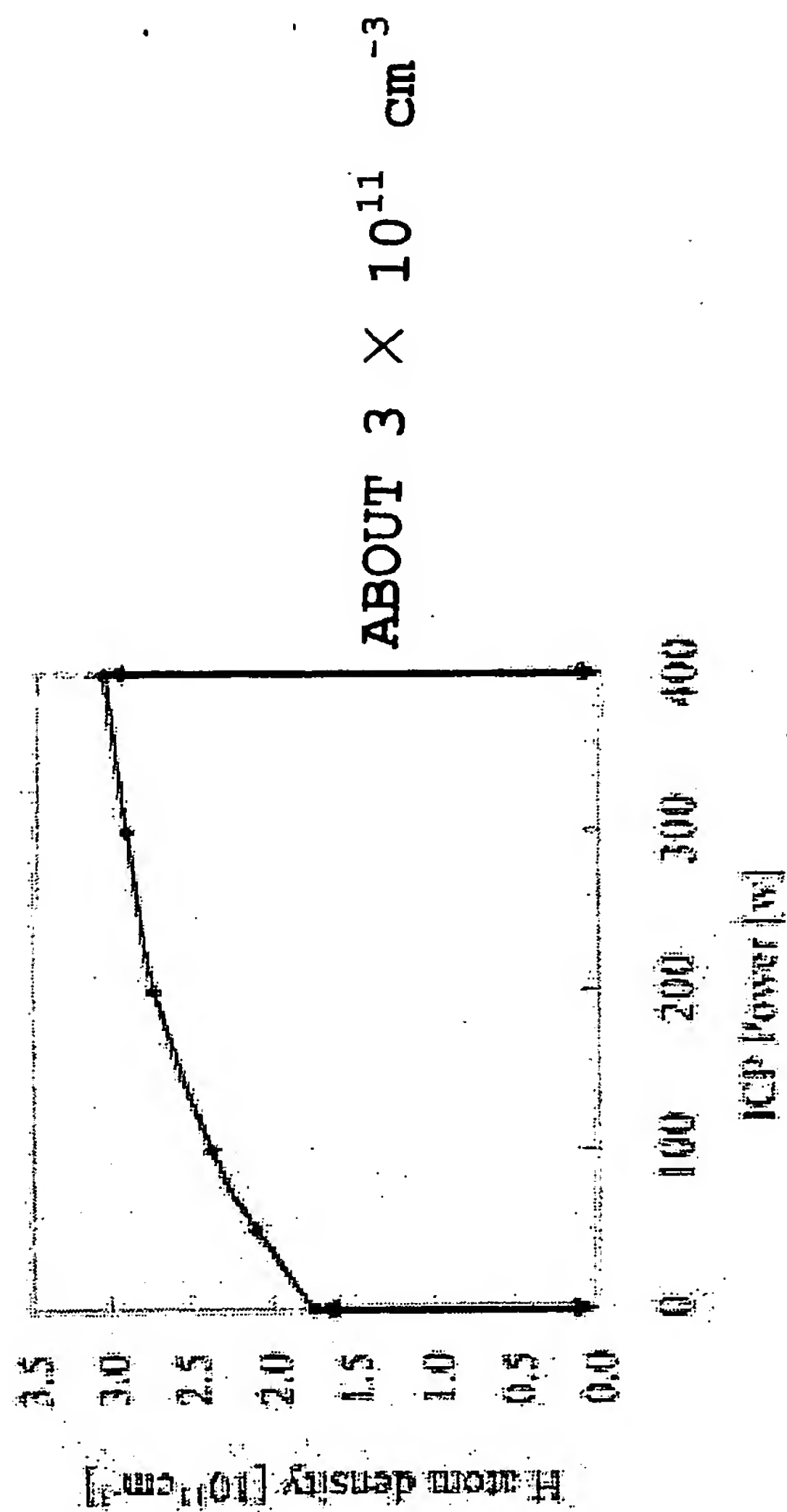


FIG. 58

CHANGE IN HYDROGEN ATOM DENSITY DUE TO VARIATION ON
 OUTPUT OF INDUCTIVELY COUPLED PLASMA
 (INDUCTIVELY COUPLED PLASMA OUTPUT OF 100W)



ABOUT TWO TIMES DIFFERENCE
 BETWEEN ATOMIC DENSITIES

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